

# Local Assets Management: A Case Study at the Education Office of DKI Jakarta Province

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## ABSTRACT

Research focus to know and describe management process of local assets. The approach used in this research is qualitative descriptive approach. This research was conducted at DKI Jakarta Provincial Education Office 2017. The sample used in qualitative research method is snowball. Data collection techniques use observation, interviews, and documentation. Data analysis with source triangulation and theory.

The results showed: 1) Schools within the Education Department of the Provincial Government of DKI Jakarta in the procurement needs planning have not done the planning pattern through the study of the Needs Plan of the local assets so that the goods needed but received are goods that are not needed. 2) Assets such as school land have not been certified on behalf of the DKI Government, or there are certain parties claiming part of their ownership, there are uncollected assets. From the aspect of maintenance because the maintenance planning has not done the pattern of maintenance planning through research of the Needs Plan of local assets Maintenance. 3) School does not understand the process of elimination in accordance with the provisions so that inventory items are not done through the process of removal. 4) Many inventory items at school are listed administratively but the facts can not physically be found. 5) No special officer is competent to carry out good governance so schools are recording assets trapped by teachers.

**Keywords:** *management, local assets.*

## I. INTRODUCTION

Local assets are economic potentials owned by the region. Economic potential means the financial and economic benefits that can be obtained in the future. This can support the role and function of local government as a provider of public services to the community. Although there are already very detailed rules, local assets issue to date still experience some obstacles.

One of issues that arise is related to the planning and budgeting process. In the practice of local assets management are often budgeted something that is not needed, while the required is not budgeted. This can happen because of certain interests, such as rent, received by the regional apparatus prior to the procurement of goods implemented.

Other issues such as in the case of procurement of goods or services. This stage is most difficult because in addition to prone to corrupt practices, the "threat" becomes a suspect (then a convict) is large enough. Therefore, the most frequent problems are: direct procurement mechanism, direct election, or open tender. Some regional apparatuses are often unwilling to become procurement committees for fear of being ensnared in a corruption case. Although the regional apparatus has taken the certification exam (as a condition of being a procurement committee, they generally prefer not to pass so they are not responsible for the procurement process of goods and services) (Decree of the Minister of Finance No. 137 of 2014 on Classification and Codification of State Property)

In addition, it also occurs in some areas in each maintenance associated with the budget for maintenance. Maintenance shopping is one of the most frequently exploited shopping expenses. If examined in the Budget Realization Report, or in the APBD Calculation, usually the maintenance budget is realized 100%. Nothing left. Based on research (World Bank, 2008) the phenomenon of ghost expenditures is common. That is, the allocation for maintenance is always budgeted incrementally even though many assets are not working or lost. this occurs because there is no transparency in the abolition and alienation of government assets.

The issue that is not less important in these local assets management lies in the elimination of regional assets. The removal of a meaningful asset is no longer the value of an asset to be listed on the balance sheet. The abolition of the ledger is made after the ownership of the asset is no longer in the area, but on the other hand or destroyed or disposed of. In accounting perceptions, the deletion is done by creating a journal, for example: debiting a fund equity account-invested in fixed assets and credits of fixed assets. (Agnew & Szykman, 2005)

Implementation Guidance technique Governance Regional Property Assets, has a very strategic as a step improvement in local assets management. Local assets management beginning with good planning, procurement, safeguarding is expected to maintain an Unqualified opinion last year. Education and Training as an effort in developing human resources especially to develop intellectual ability and human personality. Therefore, to obtain maximum results in the development of personnel required education and training programs in

accordance with the analysis of positions so that employees know the purpose of education and training it runs.

### **Problem Identification**

Looking at factual data data as mentioned above it is clear that one of the significant factors why the opinion of the Financial Audit Board to the Jakarta city government financial report is down-grade from Unqualified (2012) becomes Reasonable With Exception (2013, 2014, 2015, 2016) is the problem of asset management or asset management that is still weak. In line with the quantity and value of state owned goods, there are now many issues related to the management of state property. These issues include planning, procurement, administration, maintenance up to the phase of elimination of state property. The issue of the management of state property can not be separated from the orderly administration and legal order of the state property, the use of state property, the development of accurate and comprehensive database of state property, and the security of state assets legally and / or physically. State goods in most ministries / state agencies have not been professionally managed so as to affect the quality of financial statements. The Government of DKI Jakarta has assets as of December 2106 according to asset data recorded in the Local Asset Management Agency worth Rp. 386.142.135.000.786 (three hundred eighty six trillion one hundred forty two billion one hundred thirty five million seven hundred eighty six rupiah) after depreciation.

From the above background it is indicated that weak governance of assets / goods is in the Provincial Education Office of DKI Jakarta where there is still a 12.3 trillion rupiah share (audited status 2016) out of a total of 24.8 trillion rupiahs of carrying assets recorded immediately and validated.

## **II. LITERATURE REVIEW**

### **A. Management Review**

Management is an activity or undertaking that can be viewed as a series of behavioral processes as disclosed by (Dessler, 2005) that: Management is a particular process that is devoted to planning, organizing, mobilizing and controlling, which is done to determine and achieve the established goals by using humans and other resources). According to (George, Jennifer M., 2002) management can be seen as: 1. All persons who have the main functions or activities as work leaders. 2. The process of activities that go downward, so the form of work to achieve certain goals. 3. The power or authority system for people to carry out their work.

According to (Sarwoto, n.d.) that: "management is a process of activities by utilizing the elements of 'man', 'money', 'material' and 'method' (4M) efficiently achieve a particular purpose". This understanding indicates that management can also be viewed as a system of power in the sense that in the management of the division of tasks and authority, there is a process of working arrangements. As suggested by (Tenner, Arthur R., 1994) that "managers do not carry out operational activities on their own, but rather regulate the actions of execution by a group of people called subordinates". (Omotayo, 2015) explained that the manager is someone who leads everything from a company, agency or agency, team, and so on). If management can be viewed as a series of management processes, which use management functions, management can also be viewed as a person's ability to perform processes that refer to the efficiency and effectiveness of the process. (Batara, Sadik, & Ahmad, 2015)

Implementation of management for an organization, especially in educational organizations is largely determined by the structure of the applicable organizational hierarchy. (Harvey, Don, 1996)

### **A. Management Function**

According to (Griffin, Ricky W., n.d.(2016), management done by the agency refers to *Planning – Organizing- Actuating – Controlling* (POAC).

#### **1. Planning**

According to (Handoko, 1995) planning is the selection or determination of organizational goals and the determination of strategies, policies, projects, programs, procedures, methods, systems, budgets and standards required to achieve the objectives. The significance of planning is mainly to provide direction clarity for each activity, so that each activity can be cultivated and implemented as efficiently and effectively as possible. (Hillinger, 2010). Argues (Gutteridge, Thomas G., Zandy B. Leibowitz, 1993) suggested key steps in planning, namely: Setting goals to meet the following requirements: (a) use simple words, (b) has a flexible nature, (c) has a stability property, (d) exists in the balance of resources, and (e) includes all necessary measures.

#### **2. Organizing**

According to (Gutteridge, Thomas G., Zandy B. Leibowitz, 1993) argued that: "Organizing is the act of seeking effective relationships between people, so that they can work together efficiently, and gain personal satisfaction in performing certain tasks, in certain environmental conditions to achieve a particular goal or goal." Organizing is basically an effort to complement the plans that have been made with the organizational structure executor. The important thing to note in organizing is that each activity must be clear who does the work, when it is done, and what the target is. (Assey, Kalegele, & Chachage, 2017). With regard to this organization, (Nawawi, 1985) suggests several principles within the organization, including: (a) the organization must be

professional, that is by division of work units according to need; (b) grouping of work units should describe the division of labor; (c) the organization shall govern the delegation of powers and responsibilities; and (d) the organization must be flexible and balanced. There are three (Pekei & Hadiwidjojo, 2014) steps in the organizing process, namely: (a) details of all work to be accomplished to achieve organizational goals; (b) the division of the total workload into logical activities that can be carried out by a single person; and (c) the procurement and development of a mechanism to coordinate the work of the members into a harmonious unity.

### **3. Actuating**

Actuating is an effort to mobilize group members in such a way that they desire and strive to achieve the company's goals and objectives of the members of the company because the members also want to achieve those goals. (Simanjuntak, Ratnawati, & Rahmiyati, 2017)

### **4. Controlling**

According to (Handoko, 1995) sets forth the definition of oversight which contains an essential element of the oversight process, that: "Management oversight is a systematic effort to set implementation standards with planning objectives, designing feedback information systems, comparing real activities to predefined standards, deviations, and take necessary corrective action. (Djafri & Rahmat, 2017). The supervision process has five stages: (a) setting implementation standards; (b) determining the measurement of the implementation of activities; (c) measurement of the implementation of real activities; (d) comparing the implementation of activities with standards and analyzing deviations; and (e) take corrective action, if necessary. (Rahmat, 2017)

These management functions are interacting and interconnecting with each other, resulting in a so-called management process. Thus, the management process is actually a process of interaction between various management functions. (Tulus Suryanto, 2017).

## **B. Asset Management**

According to (Gibson, James L., John M. Ivancevich, James H. Donnelly, 1997) show that *Asset Management* is "define good asset management in term of measuring the value of properties (asset) in monetary term and employing the minimum amount of expenditure on its management. Asset management has grown quite rapidly, but in Indonesia this is particularly true in the context of local government asset management is not fully understood by local managers. (Siregar, 2016): assets Inventory; Legal audit; Asset valuation; assets Optimization.

The management cycle of local assets includes:

1. Planning needs and Budgeting
2. Assets Procurement
3. Assets Use
4. Security and Maintenance
5. Assessment
6. Alienation
7. Destruction and Elimination
8. Administration
9. Guidance, Supervision and Control.

On (Hadinata, 2011), explained that the assets are classified according to their form is divided into 2 types, namely tangible and intangible assets.

Figure 1.1 frameworks

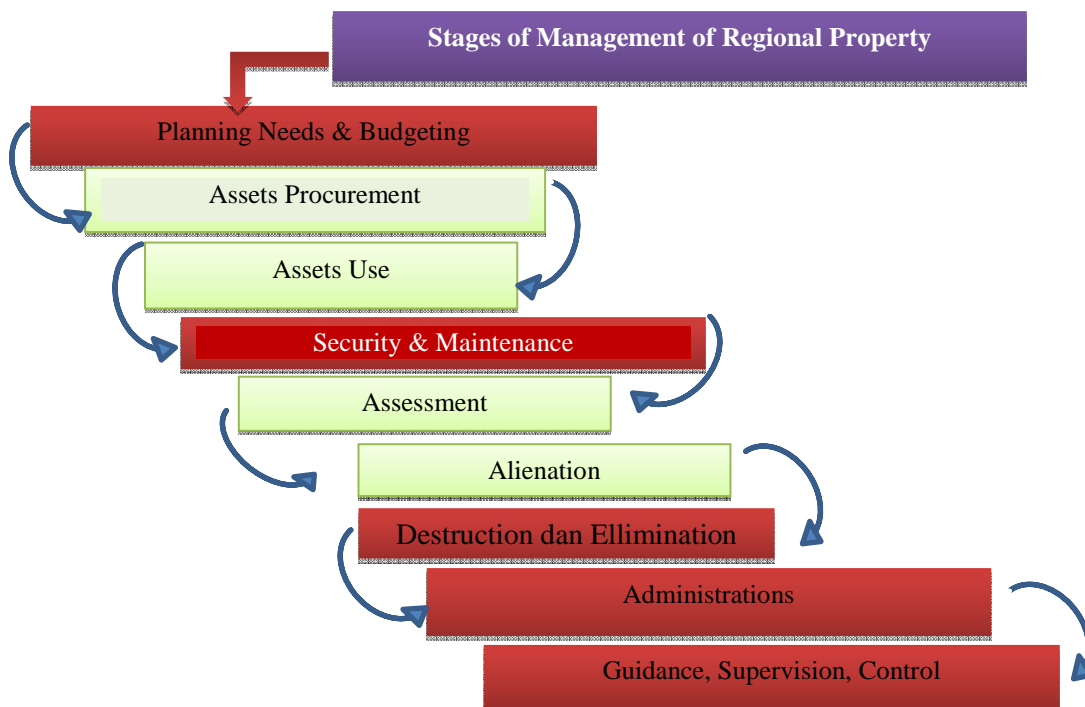


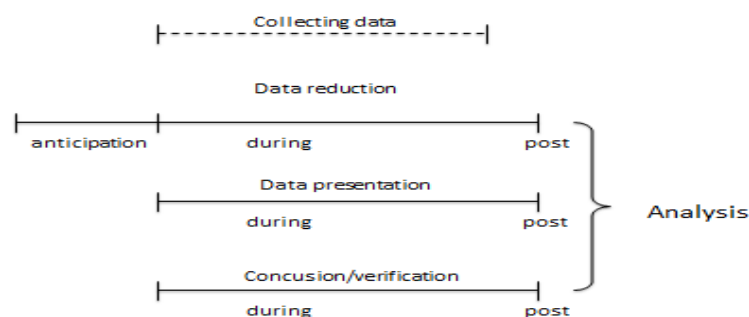
Figure 1.1. Research Thinking Framework

## II. RESEARCH METHODOLOGY

The approach used in this research is qualitative descriptive approach. (Moleong, 2007). Qualitative research has a natural feature as a direct source of data and the researcher is a key instrument (Bogdan, R.C. & Biklen, 1988). The approach used is qualitative because research methods and procedures will produce descriptive data in the form of written or oral facts of the observed behavior.(Cavicchi, Palmieri, & Odaldi, 2017). Researchers presence as a key instrument of qualitative research is intended to observe directly the phenomena associated with the study.

This research was conducted at DKI Jakarta Provincial Education Office 2017. The sample used in qualitative research method is snowball. Data collection techniques use obsevation, interviews, and documentation. Data analysis with source triangulation and theory. Data analysis is the process of arranging the sequence of data, organizing into a pattern, category and unit of basic description of information collected through field notes (field notes), researcher comments, photos and documents. After data is collected in the field in the form of words poured in the records and field reports, the data is immediately analyzed.

Figure 1.2 Qualitative Research Model Milles & Hubberman, 2004



## RESEARCH RESULT AND DISCUSSION

### A. Description of Research Results and Discussion

#### 1. Local Assets Needs and Budgeting Planning

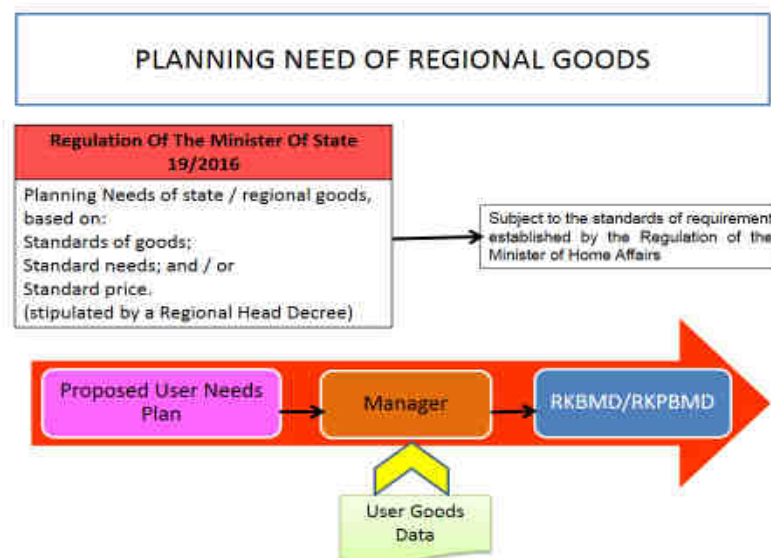
One of management process of local assets done by DKI Jakarta Provincial Education Office in stages planning of requirement and budgeting is done by looking at three standard: standard goods, standard of goods requirement and price standard. Standards of goods by specification. Needs Standards include the type standards, kinds, quantities and volume of local assets needed, as well as standardization of work facilities and infrastructure through the standardization of office space, office supplies, official houses and official vehicles. Then the price standard is the standardization of local assets price according to the type, specification and quality in one semester and determined by the Regional Head.

Planning and budgeting process can not be separated from the activities in the fulfillment of goods that are adjusted to the standardization of unit price of goods. The unit price of goods is prepared based on the results of a survey conducted by the DKI Jakarta Provincial Education Office and related Intansi to see the prevailing price standards which are then used in the needs and budget planning process.  
W/SN-Sekdis/7.10.2017

Based on the results of the above interviews, each school must make the planning as outlined in the Regional Property Needs Plan and the Needs Plan for Regional Property Maintenance. Until now this has not been implemented by the principal.

Planning needs and budgeting of Regional Property can be described as follows:

Figure 1.3. Triangulation data processing requirements planning and budgeting Regional Property



#### 2. Security and Maintenance of Regional Property/ Local Assets

Safeguarding is an activity / controlling and controlling action, in the effort of managing physically owned goods, administration and legal action, the security is aimed to make the possession of the area can be used / utilized optimally and avoid taking takedown or claim from other parties.

like this ..... there are still many assets in the school environment do not have a certificate on behalf of the local government, legality on behalf of the local government but still diklem ownership by certain parties, and there are still assets that have not been protected.

W/DA-KS.SMA30/12.10.2017

..... security and maintenance of Regional Property First, the Goods Manager, the Users of the Goods and / or the Proxy of the Goods Users shall secure local assets which is in their control. Security of local assets, including: a. physical security; b. administrative safeguards; and c. legal safeguards. The task of managing local assets in the case of securing local assets that sometimes neglected or not known by the manager of goods (regional secretary), the leader as the user goods / power of the goods user. Second, the

proof of local assets ownership must be kept orderly and safe. Storage of proof of local assets ownership is carried out by the Goods Manager. Third, the Governor may establish insurance policies or coverage in the framework of securing certain local assets by taking into account the financial capacity of the region.  
W/DA-KS.SMA30/12.10.2017

Based on the results of the above interviews, physical security of the land is done by among others: a. placing landmarks by constructing boundary fences; b. put a mark of land ownership; and c. take care of. Land physical security is carried out taking into account the financial capacity of the local government and condition of the land concerned.

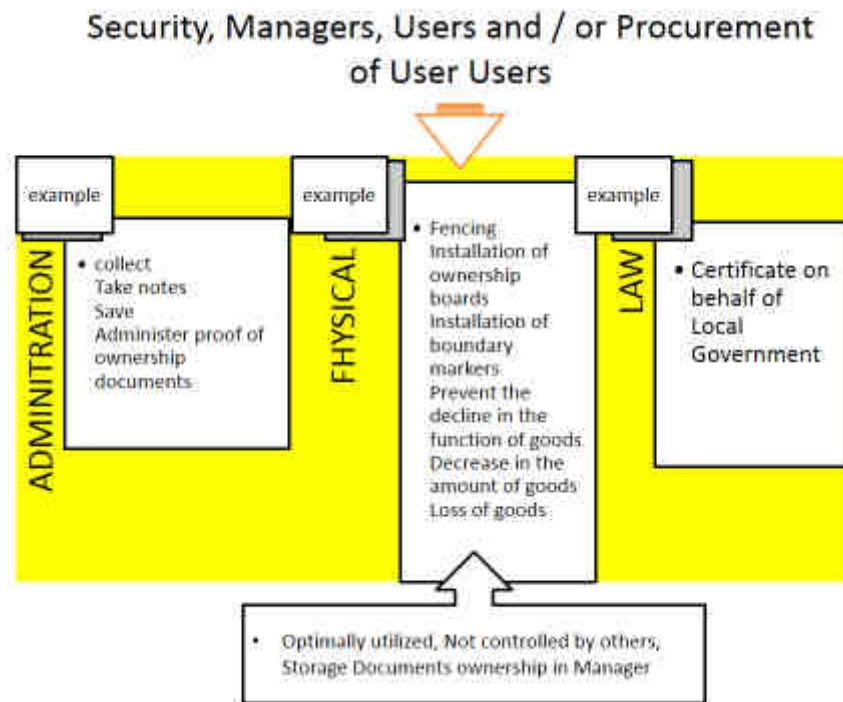


Figure 1.4. local assets security

Assets Maintenance is an activity or action undertaken so that all local assets are always in good condition and ready for use in a useful and effective manner.

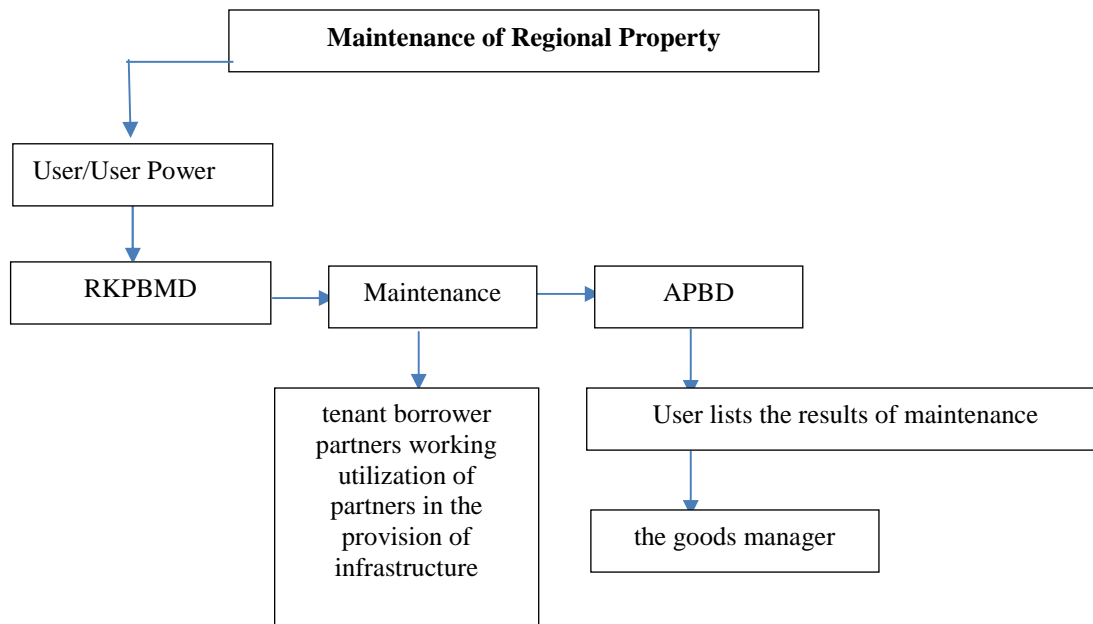
Local assets maintenance is based on the list of maintenance needs of local assets. The list of the needs of local assets maintenance is part of the list of the needs of the goods belonging to the region. The Goods User Power is obliged to make a List of Goods Maintenance Products under its authority. The Procurement User Authority reports the results of written maintenance to Users of the Goods for periodic research every six months / per semester. Users of Goods or appointed Officials shall examine reports on the results of maintenance of goods and compile a list of goods maintenance carried out in 1 (one) Fiscal Year.

W/S-Sudin-Kasisaspras/16.10.2017



Here is a picture of local assets maintenance

Figure 1.5. Local Asset Maintenance



### 3. Local Assets Deletion

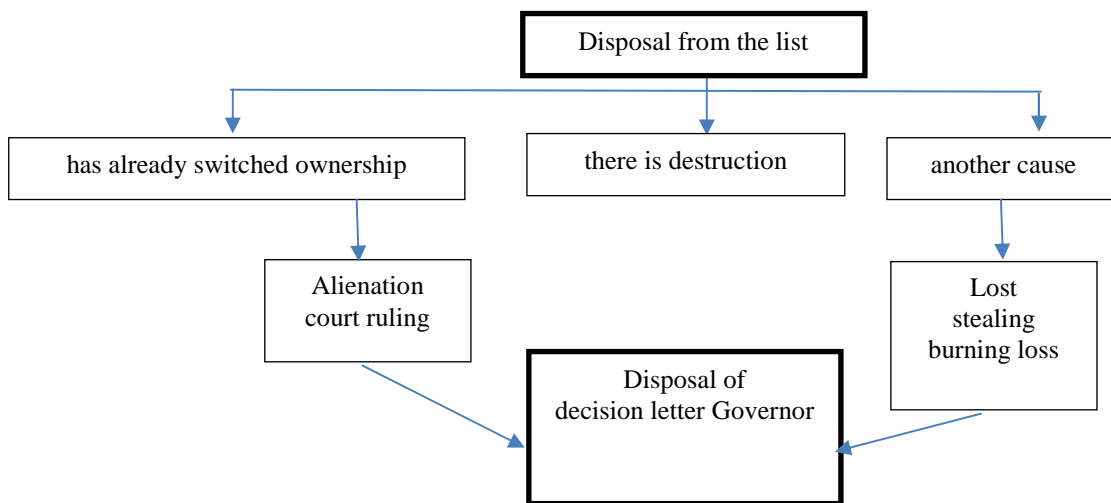
Asset deletion is a process of activities that aims to exclude or destroy property and local assets from the inventory list because the goods and assets have no use or no longer work, especially for the benefit of the service. Deletion is done under applicable laws and regulations. Here is the interview with Su.

For assets that are old and can not be used optimally by local government, the asset can be eliminated, in addition to economically more profitable for the region if removed, because the operational costs and maintenance greater than the benefits obtained. However, in the implementation of abolition and alienation, there is still abolition and alienation that is not in accordance with the applicable mechanisms because the implementation is not based on the applicable regulations and may lead to the possibility of abuse of authority or action to benefit oneself that will harm the region.

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Based on the results of the research can be understood that the Provincial Education Office of DKI Jakarta has implemented the elimination. It's just got constraints in the implementation of staff and officials who manage local assets have not understood the main duties and functions they emban, and there are still physical goods that are not found because the age of goods that have been very long and the goods purchased actual goods used up but in budgeting specified in capital expenditures.

Figure 1.6. Local Assest Disposal



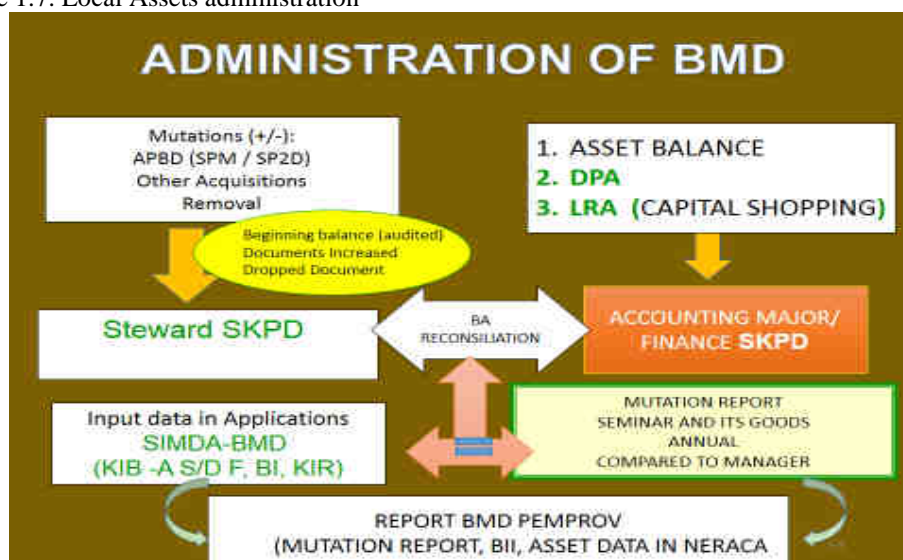
#### 4. Deleting Administration

Local assets administration aims to address the orderly administration and support the orderly management of state assets. Administration of state assets in order to realize the orderly administration including preparing reports of state property that will be used as material for the preparation of the central government balance. While state assets administration in order to support the realization of the orderly management of state assets are to provide data so that the implementation state assets management can be implemented in accordance with the functional principle, legal certainty, transparency and openness, efficiency, accountability and value certainty.

Local assets management report must be prepared every semester along with mutations in stages. In addition to position and mutation, reporting obligations also apply if there is non-tax state revenue on the implementation of local assets management. Formats, lists, books, and reports are made simpler, both of number and type, and must be adjusted in order to harmonize with other rules. The number of reports that must be submitted divided per level, ranging from 16 formats to 40 formats. While in the previous rule, reports are made in 36 to 62 formats.

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Figure 1.7. Local Assets administration



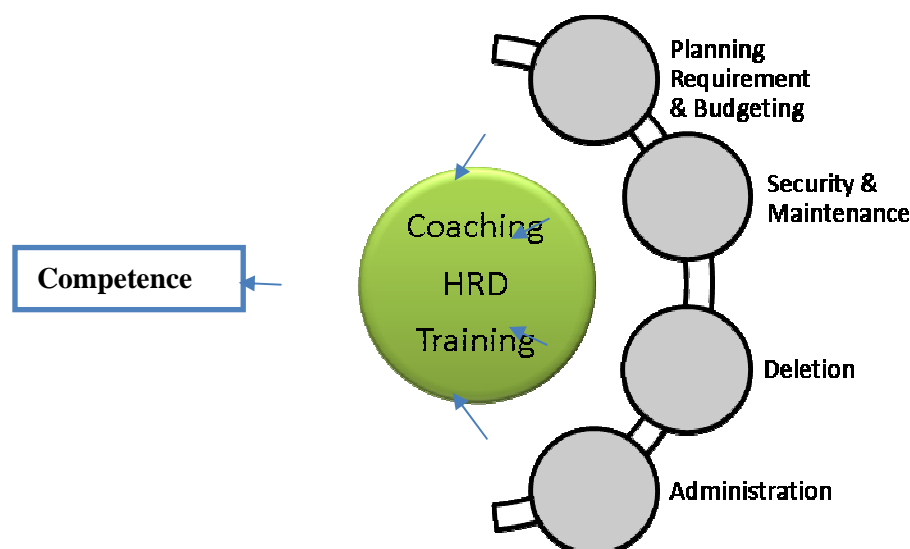


## 5. Local Assets Development

The most important thing in local assets management is the development of human resource competencies. Human Resource Development is any activity undertaken by the organization in facilitating employees to have the knowledge, expertise, and / or attitudes needed in handling current or future work. The activities in question, not only on the aspects of education and training, but also related to career aspects and organizational development. In other words, human resource development is closely related to efforts to improve the knowledge, capabilities, and / or attitudes of members of the organization and the provision of career paths supported by the organization's flexibility in achieving organizational goals

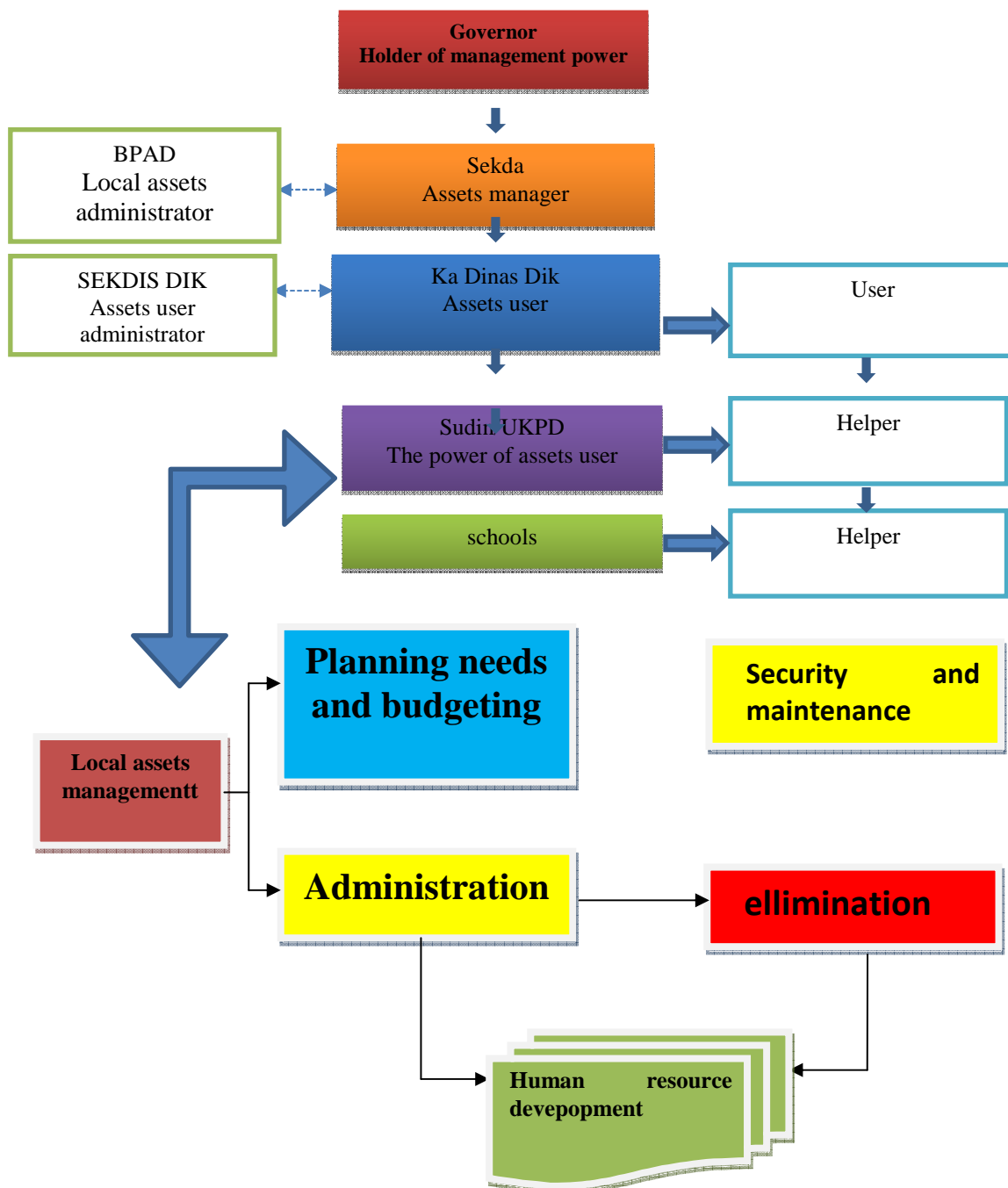
Based on the results of the above interviews, the development of competency-based human resources is conducted in order to provide results in accordance with the goals and objectives of the organization with a predetermined performance standard. The competencies of an individual employee should be able to support the implementation of the organization's mission of vision through the organization's strategic performance. Therefore the performance of individuals within the organization is a way in improving the produktivitas organization itself.

Figure 1.8 Local Assets Development



In general, self-competence can be understood as a combination of skill, personal attributes, and knowledge reflected through performance behaviors that can be observed, measured and evaluated.

Figure 1.9. Findings of Research Results



## V. CONCLUSION

Based on the above findings, this study can be summarized as follows:

1. All schools in elementary school, junior high school or vocational school within the education office of the Provincial Government of DKI Jakarta in the procurement needs planning sourced from the budget funds have not done the planning pattern through the study of the Regional Property Needs Plan so that sometimes sometimes the goods needed but received is unneeded.
2. There are still many assets such as school land has not been certified on behalf of DKI Government, on the contrary there are assets already certified on behalf of the local government but there are certain parties who claim part of the ownership, in addition there are still unserved assets that are prone to grasping. From the aspect of maintenance because maintenance planning has not done the planning

pattern of maintenance through the research of the Needs Plan of local assets Maintenance so that there is a very urgent school once to get priority maintenance is not budgeted and vice versa.

3. In general, schools do not understand the process of abolition in accordance with the provisions so that sometimes inventory items are not done through the process of deletion but executed by destroying or giving to those in need.
4. Many inventory items at school are listed administratively but the facts can not physically be found, because the history of acquisition of goods is unclear, which has a difficult time making reporting in quarterly, semester and not executed as required.
5. There is no specific officer who is competent to carry out good governance so that the schools do the recording of assets caught by the teacher.

### Suggestion

1. In order for all schools in order to obtain certainty on the procurement of goods required can be fulfilled, in the planning of procurement needs of goods must be started by making a plan needs local assets and propose to the level of sub-department / service before final determination done by the Goods Manager.
2. Schools should inventory assets that have not yet been certified, including those certificated but sued by certain parties, and uncharted school lands to be immediately proposed to the Governor. Secretary of the Region as a manager of goods to be acted upon by the realization of the regional asset management as regional administration officials.
3. Intensification of the socialization of the procedures for the elimination of regional goods against all schools in order to perform the process of elimination in accordance with the provisions.
4. Need intensification and understanding to the officer in order to record the goods more thoroughly by ensuring what is recorded must be accountable and can be proven by physical physical manifestation.
5. Each school shall be appointed a competent helper and fully responsible for the governance of local goods which, before it is stipulated by the governor, is expected to have a certificate of the management of regional property by the Human Resources Development Board.

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## CURRICULUM VITAE



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# Financial and Operational Performance: Evidence from Chittagong Port Authority in Bangladesh

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## Abstract

A port is a facility for receiving ships and transferring cargo. They are usually found at the edge of an ocean, sea, river or lake. In the last few decades, due to huge upshot of globalization, the world economy has experienced rapid growth in shipping industry and international trade. Bangladesh with a population of 150 million has a remarkable volume of international trade of which 80% in sea borne. Although two seaports, namely Chittagong and Mongla, are the gateways, Bangladesh use its largest sea port Chittagong Port Authority (CPA) to connect to the whole world. CPA handles nearly 90% of all sea borne trade, highlighting its importance to the economy of Bangladesh in spite of several deficiencies. CPA contributes to 33% of Bangladesh GOVT. revenue. Bangladesh being a global front-runner in the RMG exports has also achieved significant position in some other export items like leather goods, jute, tea and frozen foods. On the other hand, Bangladesh imports electronic and automobiles goods, consumer goods, chemical etc. from china, Japan and India. Due to significant contribution to the total country's revenue and growth, it has become very important to analyze the Efficiency of CPA. This study uses different financial and statistical tools in analyzing the efficacy of CPA.

**Keywords:** Financial performance, operational performance, Chittagong Port Authority (CPA), ratio analysis.

## 1. Introduction

Sea ports efficiency is crucial issue for handling of goods in the international supply chains and is viewed to influence transports and logistics which play an significant role in trade exchange with other countries. It is important to evaluate overall efficiency of sea port to reflect their position and disclose their position in this competitive environment. The geographical location of Bangladesh can be treated as very much attractive to the international traders as she is located beside the Bay of Bengal. The bay is comprising two natural ports located Chittagong and Mongla surrounds a great portion of the boundary area of Bangladesh where Chittagong is the principal port (CPA, 2014) that situated on the right bank of the river Karnafuli in Chittagong . It provides a major gateway for the country's trade with the outside world. Chittagong Port has undertaken many ambitious projects to enhance its capacity, improve efficiency and quality of services and also to develop adequate facilities to turn itself into a world class regional port.

## 2. Literature review

There exist a numerous study on Performance Analysis of Sea port considering different factors and perspective. Kaplan (1984) argued that superior financial performance of ports may be due to the use of 'novel financing and ownership arrangements' rather than to efficient operating and management systems. Hassan and et al (1993) and Hassan (1993) suggested that complicated interconnected port operations are divided into four categories: 1. Ship operations, 2. Cargo handling, 3. Warehousing, 4. Inland transportation.

Vitale and Mavrinac (1995) came up with a critique on using financial ratios to measure port performance owing to their limitation in assessing the contribution of intangible activities at ports. Such activities include innovation and development that lead to better performance and customer service.

Tongzon (1995) established a model of port performance and efficiency, specifying and empirically testing factors which influence port performance and efficiency. An empirical basis for the crucial role of terminal efficiency has been covered in this study relative to other factors in overall port performance. Turk et al (1995) suggest that the key to analysis and measurement of the financial and operational control and impact is related to the central question: What is the organization's mission?

Trujillo and Nombela, (1999). There are many ways of measuring port efficiency or productivity, although reducible to three broad categories: physical indicators, factor productivity indicators, and economic and financial indicators

Berköz, (1999), ports have 2 main advantages. First of all they perform roles as important links of hinterlands to points overseas. On the other hand, countries also require inner linkages, such as links to other ports, airport and railway connections if they are to perform their role efficiently. Secondly, sea conveyance is the cheapest way of transportation when considered in terms of fuel consumption and investment.

Financial Markets Department (2000) affirmed that ratio analysis is a reflection of the true state of affairs of the performance of any business

Holmberg (2000) maintained that the main bias of financial techniques is that they reflect the results of past actions and are designed to meet external evaluators' needs and expectations.



Sánchez et al. (2002), it was found that more efficient seaports are clearly associated lower freight costs after controlling for distance, type of product, liner services availability, and insurance costs, among others. Moreover it was also found a 25% improvement of one efficiency factor implies a reduction of approximately 2% in total maritime transport cost.

Glynn et al, (2003) point out that Getting into a more quantitative perspective of financial analysis, ratio analysis is a well-established tool to evaluate an organization's profitability, liquidity and financial stability.

Clark, Dollar and Micco (2004) stated that port efficiency is only partly dependent on distance and its effect on transport costs, and the capital investment on port facilities. Factors such as port activities and services such as pilot age, towing, tug assistance or cargo handling, to name a few, are important as well when assessing the efficiency of a port. Inefficient ports increase handling costs, which are one of the components of shipping costs.

Nimalathasan (2008) stated that the common reason which supports much of the financial performance research and discussions is that, increasing financial performance analysis will bring about improvement in functions and processes of the organization.

A report by the US Maritime Administration or MARAD (2003) stated that the common measures for the financial performance in the maritime industry include return on investment, return on assets, capital structure and short-term liquidity.

### 3. Objective

The main objective of the study is to evaluate the performance of Chittagong Port Authority. To achieve the main objective the following specific objectives have been covered.

- To measure the operational performance of Chittagong Port Authority.
- To assess the Financial Performance of Chittagong Port Authority.

### 4. Methodology

To understand the current status, performance and prospects of CPA in the sea port industry, the study basically used ratio analysis considering data from balance sheets and income statements of CPA from financial year 2010-2016. Apart from that, operational performance of CPA has been addressed considering total yearly container through put, Total yearly cargo Tonnage and turn round time for ships in the port. It should be noted that common size statement analysis is a category of doing financial performance analysis of an organization. But the main focus of the study is on ratio analysis as it shows almost the overall financial and operational condition such as profitability, Asset-Management efficiency, Capital structure and liquidity of the organization. Descriptive statistics also employed in analyzing financial data. Mean, SD, CV are calculated for different type of ratio. Trend lines are introduced to virtually represent the result of the analysis.

Financial ratios express relationships between financial statement items. Although they provide historical data, management can use ratios to identify internal strengths and weaknesses, and estimate future financial performance.

### 5. Findings and Analysis:

Table: 5.1

Different Ratio	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	Average	SD	CV
<b>Financial Performance Indicator</b>									
ROCE	7.63	8.26	8.12	5.69	5.51	4.48	6.62	1.59	0.24
ROA	6.78	7.14	7.08	4.87	5	6.09	6.16	1.02	0.17
ROE	7.63	8.26	8.12	5.69	5.51	4.5	6.62	1.58	0.24
Net Profit Margin	45.97	44.87	47.96	36.95	35.95	34.08	40.96	5.96	0.15
Gross Profit Margin	57.15	67.45	68.8	66.26	63.48	63.2	64.39	4.17	0.06
Current Ratio	0.88	0.76	0.86	0.72	0.82	0.75	0.80	0.06	0.08
Working Capital Ratio	-0.013	-0.032	-0.178	-0.402	-0.379	-0.235	-0.21	0.27	-0.80
Total Assets Turnover Ratio	14.74	15.91	14.75	13.17	12	14	14.10	1.37	0.10
Debt Ratio	0.11	0.14	0.13	0.14	0.13	0.26	0.15	0.05	0.36
Financial Gearing Ratio	11.2	13.59	12.85	14.43		5.98	9.68	3.36	0.35
<b>Operational Performance Indicator</b>									
Turn round time of Vessels (In Days)	5.15	6.9	4.88	4.91	4.23	4.26	5.06	0.98	0.19
Total Cargo Tonnage(In '000 TONNES)	37001	44895	40901	43372	47299	54781	44708.17	6064.48	0.14
Container Throughput (In '000 TUES)	1213	1419	1343	1419	1626	1817	1472.83	215.44	0.15

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016& Official Report of CPA

#### 5.1.1 Evaluation of Operational Performance:

Operational efficiency, measured through turnaround time, is very important indicator of port development. The Chittagong port, which has expanded very significantly during last couple of decades and undertook many

initiatives including administrative reform and technical advancement, is, however, struggling with turnaround time efficiency till today. Table 5.1.2, Figure 5.1.1;5.1.2

## 5.2 Evaluation of Financial Performance:

### 5.2.1 Profitability:

Profitability ratios indicate management's ability to convert sales dollars into profits and cash flow. The common ratios are gross margin, operating margin and net income margin. The return-on-asset ratio which measures a company's effectiveness in deploying its assets to generate profits. The return-on-Equity ratio /Returned on capital employed which is the ratio of net income to Equity which indicates shareholders' equity, indicates a company's ability to generate a return for its owners. The average of ROCE and ROE is same that means both are equal to 6.62 and CV is 0.24. The average of ROA is 6.16 and CV is 0.17. The Average of Gross profit Margin and Net Profit margin is 64.39% and 40.96% respectively and CV are 0.06 & 0.15 respectively. CV shows that the gross profit margin is satisfactory level. From the following table, it is notable that ROCE, ROE, ROE, gross profit margin as well as net profit margin in first three years shows increasing trend but in last three years the trend is decreasing. Table 5.2.1, Figure 5.2.1

### 5.2.2 Liquidity:

Current ratio greater than one is usually a minimum because anything less than one means the company has more liabilities than assets. During the study period, Current Ratio shows that they only pay 80% of all its obligations with its assets. Quick ratio (acid test) has not demonstrated here as there is no significant difference with current ratio, as CPA does not deal with inventory. CPA is a self financing organization, providing service to the welfare of the country. So that CPA has no option of collecting funds to meet contingencies. Table 5.2.2 Figure 5.2.2

### 5.2.3 Solvency:

Solvency ratios indicate financial stability because they measure a company's debt relative to its assets and equity. A company with too much debt may not have the flexibility to manage its cash flow if interest rates rise or if business conditions deteriorate. The common solvency ratios are debt-to-asset and Financial Gearing (Debt/ (debt + Equity)\*100) Ratio. The average ratio of debt ratio and financial gearing ratio over the six years is 0.15 & 9.68 respectively and CV is 0.36 & 0.58 respectively. In 2010-2014, Financial Gearing ratio of CPA shows that they heavily depend on long term fund/requirement and more exposed to financial risk. But In the year 2016 financial Gearing Ratio sharply decrease to 5.98. Which is a good indication of CPA. Table 5.2.3 Figure 5.2.3

### 5.2.4 Efficiency:

Asset turnover ratio is the ratio of the value of a company's revenues generated relative to the value of its assets. The Asset Turnover ratio can often be used as an indicator of the efficiency with which a company is deploying its assets in generating revenue. The average Assets turnover Ratio of CPA over the six years is 14.10 & CV is 0.39. That means CPA utilized their total assets not as much as efficiently in generating the revenues. Table 5.2.4 Figure 5.2.4

## 6. Discussions & Conclusion

Chittagong port Authority faces operational inefficiency due to Lack of cargo handling machineries, shortage of required human resources, burden of bureaucracy, institutionalized informal practices within the port, poor level of digitalization, etc. It is observed that the growth of cargo and container handling in recent years by the port is not continuous and balanced. Nasir Uddin Chowdhury, a former first vice-president of Bangladesh Garment Manufacturers and Exporters Association, said the port lacks container handling equipment which is affecting its operation. (Daily Star Newspaper. February 21, 2017). Chittagong Port Authority (CPA) raised the rent on storage in dec 2016, which is charged after expiry of the four-day free storage service. But the temporary measure has apparently failed to yield any positive outcome. The turn-around time of ships in Chittagong Port is average 5.06 days. This turn-around time is much higher compared to other ports of the world. The importers have to pay US\$ 10,000 to 15,000 per ship as rent for stay at the port each extra day, which ultimately has an adverse impact over the prices of commodities. Khairul Alam, director of Bangladesh Freight Forwarders Association, blamed the lengthy value assessment process and examination of cargoes by the Custom House as one of the factors for the delay in clearing the import containers. Four departments of the Customs usually examine the import containers. (Daily Star Newspaper. February 21, 2017). The study shows CPA generating profit in satisfactory level but the liquidity, efficiency and solvency are exposed to higher financial risk. CPA has a good geographical location and land and has available for future expansions. Several industrial units and commercial centers have established themselves around the port. There is a good possibility for transit trade with neighboring countries. The Government can hire foreign management for the CPA to improve its efficiency.

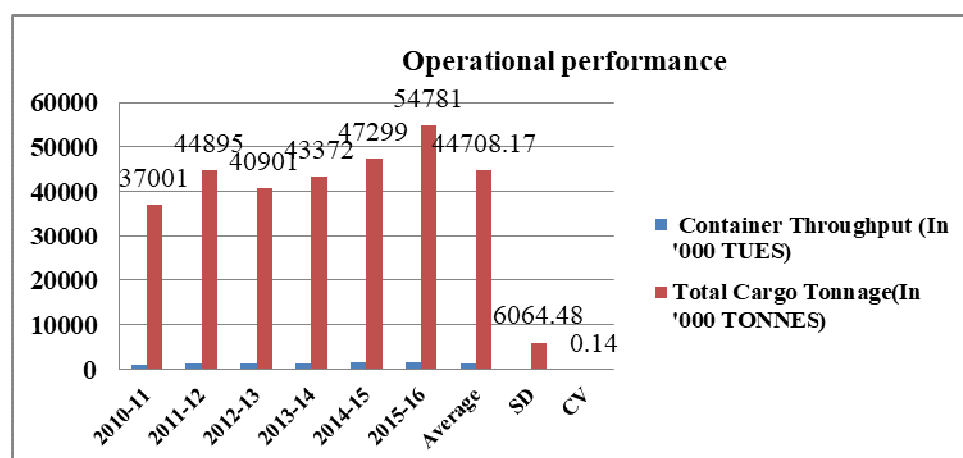
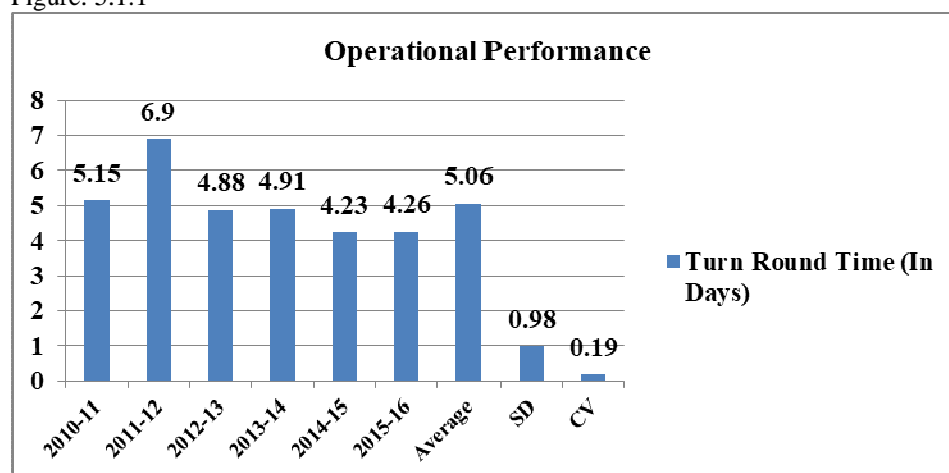
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## Appendix: 1

Figure: 5.1.1



Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016& Official Report of CPA

Table: 5.1.2

Fiscal Year	Container Throughput (In '000 TUES) Growth	Total Cargo Tonnage(In '000 TONNES) Growth	Turn Round Time (In Days)
2010-11			
2011-12	0.17	0.21	0.34
2012-13	0.11	0.11	-0.05
2013-14	0.17	0.17	-0.05
2014-15	0.34	0.28	-0.18
2015-16	0.5	0.48	-0.17

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016 & Official Report of CPA

Figure: 5.1.2

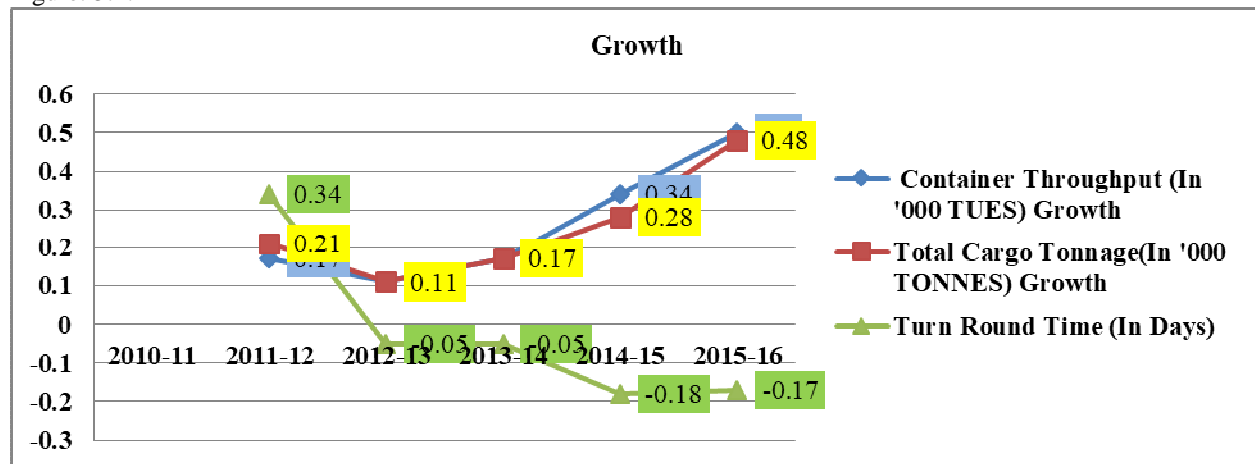


Table: 5.2.1

Fiscal Year	Return on capital Employed (%)	ROA (%)	ROE (%)	Gross Profit Margin (%)	Net Profit Margin (%)
2010-11	7.63	7.63	7.63	57.15	45.97
2011-12	8.26	8.26	8.26	67.45	44.87
2012-13	8.12	8.12	8.12	68.8	47.96
2013-14	5.69	5.69	5.69	66.26	36.95
2014-15	5.51	5	5.51	63.48	35.95
2015-16	4.48	6.09	4.5	63.2	34.08

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

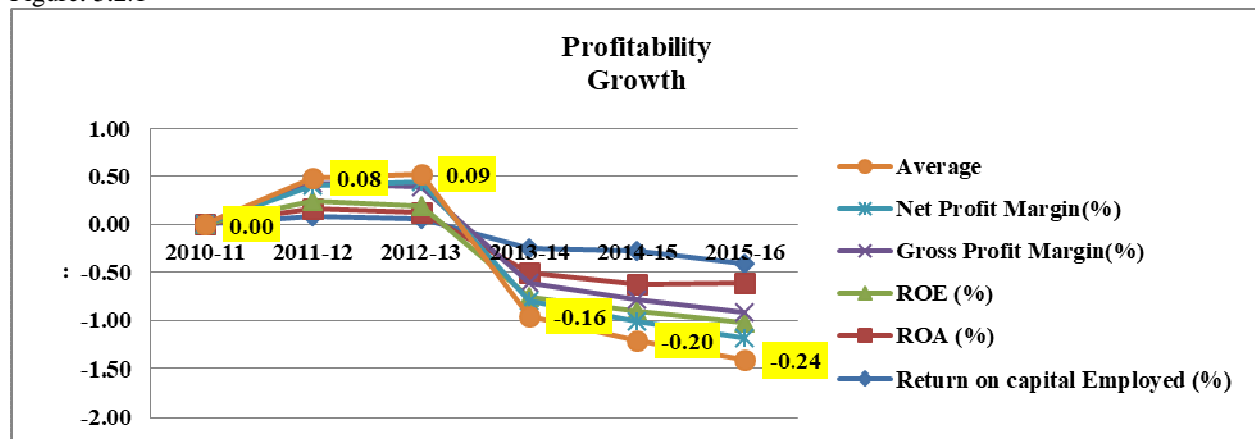
Profitability:

Growth Performance

Fiscal Year	Return on capital Employed (%)	ROA (%)	ROE (%)	Gross Profit Margin (%)	Profit Net Margin (%)	Profit Average
2010-11						
2011-12	0.08	0.08	0.08	0.18	-0.02	0.08
2012-13	0.06	0.06	0.06	0.20	0.04	0.09
2013-14	-0.25	-0.25	-0.25	0.16	-0.20	-0.16
2014-15	-0.28	-0.34	-0.28	0.11	-0.22	-0.20
2015-16	-0.41	-0.20	-0.41	0.11	-0.26	-0.24

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Figure: 5.2.1



Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Table: 5.2.2

Fiscal Year	Current Ratio	Working Capital Ratio
2010-11	0.88	-0.013
2011-12	0.76	-0.032
2012-13	0.86	-0.178
2013-14	0.72	-0.402
2014-15	0.82	-0.379
2015-16	0.75	-0.235
Average	0.80	-0.21
SD	0.06	0.17
CV	0.08	-0.80

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Figure: 5.2.2

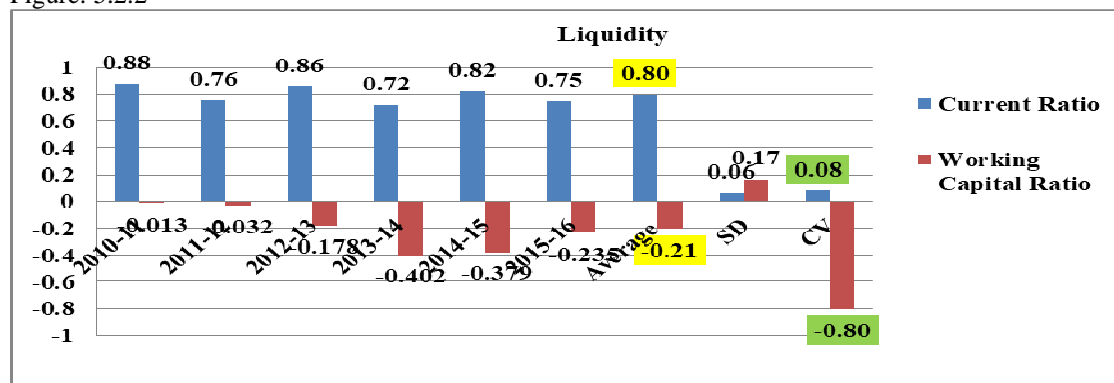
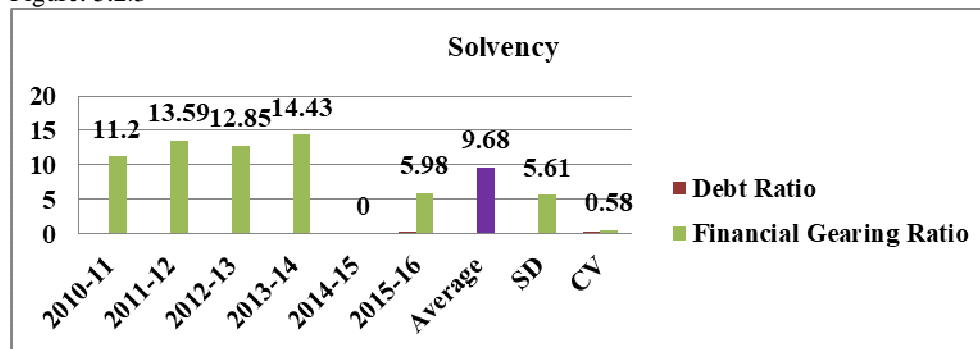


Table: 5.2.3

Fiscal Year	Debt Ratio	Financial Gearing Ratio
2010-11	0.11	11.2
2011-12	0.14	13.59
2012-13	0.13	12.85
2013-14	0.14	14.43
2014-15	0.13	0
2015-16	0.26	5.98
Average	0.15	9.68
SD	0.05	5.61
CV	0.36	0.58

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Figure: 5.2.3



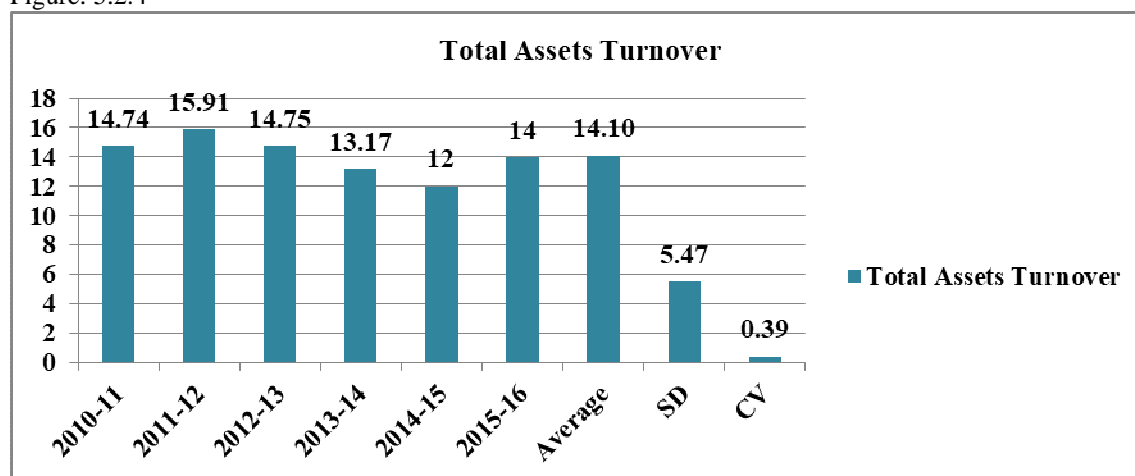
Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Table: 5.2.4

Fiscal Year	Total Assets Turnover
2010-11	14.74
2011-12	15.91
2012-13	14.75
2013-14	13.17
2014-15	12
2015-16	14
Average	14.10
SD	5.47
CV	0.39

Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016

Figure: 5.2.4



Source: Annual Report of CPA Fiscal Year 2010-11 to 2015-2016



# Impact of E- Learning on Students Performance in NCT

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## Abstract

Online learning management systems are in use to facilitate the face to face learning process in many educational institutions to upgrade the learning skills of students and enhance their knowledge. There are many variables that form and influence a student's perception of an online learning management system. This study investigates whether there is a relationship between the perception of a student regarding the learning management system and their actual usage of such system. It is believed to help better understand the student usage of online learning management system. An online questionnaire was published on an e-learning management system for diploma students and the student participation was voluntary. Results indicate that different specialization students are comfortable in using computer and internet and also their learning scope has widened due to Moodle usage. Interestingly, different gender students are not equally comfortable using computer and internet and also their learning scope has not widened equally due to Moodle usage.

**Keywords:** Moodle, Specialization, educational institutions, learning management system.

## 1. Introduction

Technology plays a significant role in many aspects of day-to-day life and education is not different. Technology is rapidly changing in the education field. Computers have replaced chalkboards as they are used as an instrument in classrooms today. And it's not just happening in higher education; technology is part of education for children of all ages. It's also a part of their daily lives. The technology is influenced in the education of student that effect on curriculum and development of performance of students. The change in teaching and learning methodology and practices, the media application that needs in education and the development of media classification, quantitative and qualitative expansion of education.

A teaching method comprises the principles and methods used by teachers to enable student learning. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about. New methods of design and selection of teaching methods must take into account not only the nature of the subject matter but also how students learn. In today's education era the trend is that it encourages a lot of creativity. It is a known fact that human development comes through reasoning. This reasoning and original thought enhances creativity. There is no doubt that in this age of technology and speed we need to keep up with the development and take a new course of education in a different way from classroom education, in which the role of the teacher is the instruction of his students, so many institutions went to e-learning, which is one of the most important education because of its benefits in developing the educational process.

One of the innovative method of imparting education is E-learning. E-learning have many benefits for students like: Create dialogue rooms and gather students and teachers in them which gives the student greater opportunity to discuss and understand the material, the ease of communication between the teacher and the student at anytime and anywhere even outside the official working hours, and give the student enough opportunity to ask questions regarding the subjects, Use pictures, illustrations and video to explain the material to students....etc. E-learning is a learning tool that is in line with the age and its changes, to achieve the great benefit of the learner using modern methods to support the educational process. This method achieves a high degree of creativity and helps to develop the skills of the recipient and reduce the indoctrination. Educational, computers were the first basis, and then began to develop devices so easy access to information. E-learning enables the individual to learn according to his / her time, potential, energy and abilities. He will learn what he wants and will get the expertise he is looking for. To access e-learning, there must be a computer or a device with access to information and internet access updated. A key advantage to getting your learning online and multi-device is that it ensures you are in sync with modern learners - delivering the type of content they want, when they want it. Get learners on-side, and you're more likely to get the results you need. Plus, digital, self-paced learning can be accessed at point of need, not somewhere else - like a classroom far away - so students can apply what they've learnt straight away. By providing an alternative to the paper-based learning and testing of traditional classrooms, e-learning is an effective way for organizations to significantly reduce their carbon footprint.

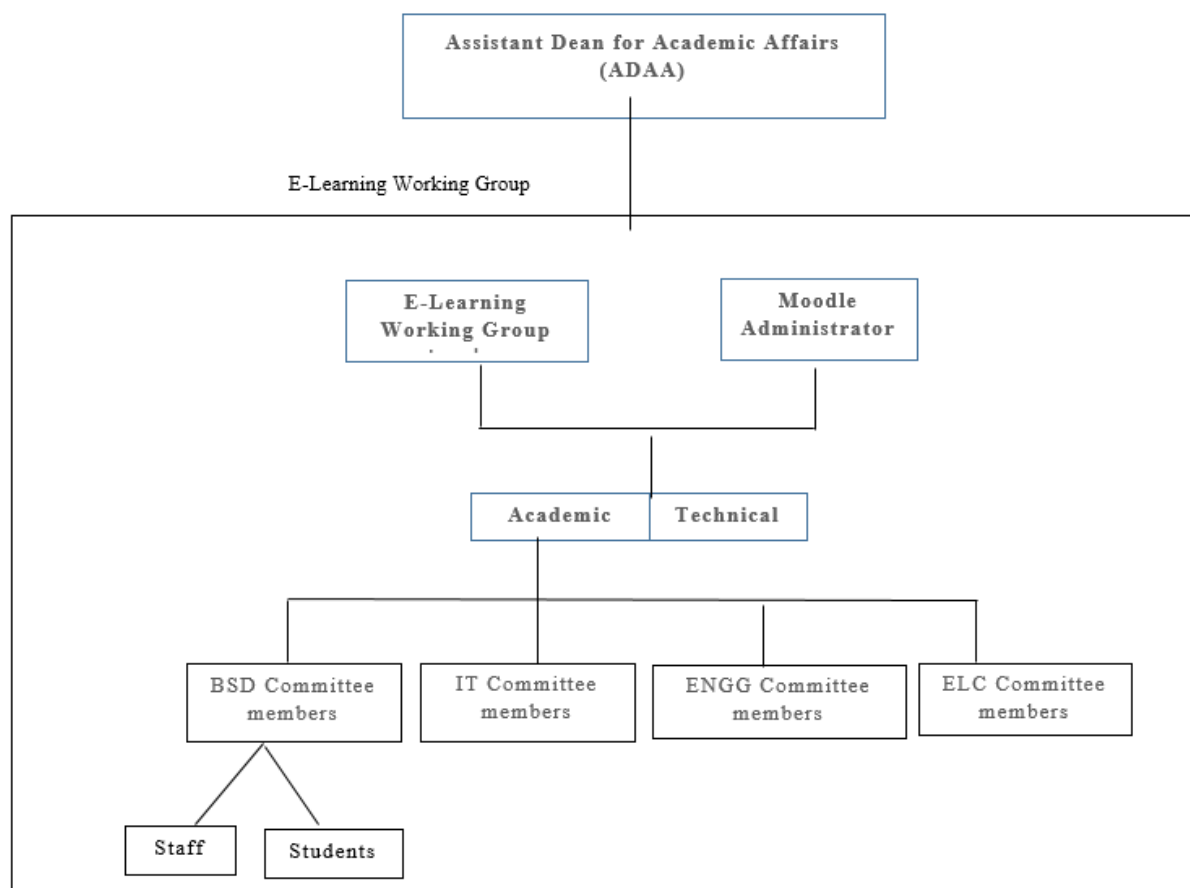
## 2. Background

With the rapidly increasing popularity of the Internet, the delivery of learning programs has gradually shifted

from local desktop to online based applications. Many educational institutes have tried to bring in learning management systems to facilitate the face to face learning process. At Nizwa College of technology, Moodle was started in 2007. Moodle is an Open Source course management system for online teaching and learning. The acronym MOODLE stands for Modular Object Oriented Dynamic Learning Environment. Moodle was developed from a social constructivist perspective by Martin Dougiamas at Curtin University in Western Australia. (Dougiamas & Taylor, 2003, Cited in Kennedy 2005). The acceptance and adoption of Moodle has been extremely successful and at the time of writing, in 196 countries there were more than 39000 registered Moodle sites and it was available in more than 70 languages.

Nizwa College of technology adopted to use Moodle for all academic and course related activities within a span of few years. The entire college consisting of Department of Engineering, Department of Information Technology and Department of Business uses Moodle to manage its diploma, advanced diploma and Bachelor courses and its user base has grown to about 5400. However, during the past few years it was observed that the students did not respond to the notices made through the Moodle regarding lecture schedules, additional reading material introduced and even assignments made available through this system. Every time an assignment or a new resource material was made available there would be only few students who would be aware of that. The details of the number of students who have visited a particular resource could be extracted from the system logs and these numbers were not encouraging. At Nizwa College of Technology few research were conducted in the past regarding the students skills, knowledge and attitude towards learning different courses etc. This study is a preliminary investigation attempting to ascertain a relationship between the perception of the system and the actual use of the system

#### **Process of E-learning (MOODLE) at NCT**



E-learning has become an integral part of NCT. It is also used as an instrument to implement SCL (Student Centered Learning) in the college. The college has formed an E-Learning working group. The group comprises of the following members:

**Group leader:** - The E-Learning group leader is responsible for conducting group meetings, ensuring effective implementation of Moodle, coordinating between academic and technical subgroups and also reporting to higher authorities.

**Moodle administrator:** The Moodle administrator is responsible for uploading new user's staff and students to Moodle. At the beginning of every semester the administrator uploads the courses as well as students and

teachers in each class, coordinates with e-learning technical group and assists the academic units.

**E-learning academic group:** Leads, directs and monitors teacher's Moodle usage in their respective departments, resolves Moodle issues, coordinates with Moodle administrator to solve Moodle related issues in respective departments.

### 3. Review of Literature

The development of the Internet and its applications determined an increase of the role of computer-based instruments in the learning process. This is the reason why educational institutions have an increasing need to use virtual learning environments (VLE), namely an electronic learning platform that accompanies the traditional teaching-learning-assessment process. As a result, a series of applications appeared, having the role to enable the integral management of the on-line learning process, as well as the blended learning-type applications (Popat, K, MacLean, H, Heppell, S., 2007) This type of platforms have two roles: on the one hand, they enable the content management (courses, homework), ensure synchronised collaboration (by chat, videoconferences), as well as non-synchronised collaboration (forum, messages, blog.) and, on the other hand, they can be used in managing the courses and the students that applied for these courses (Weller, M., 2007). According to Maikish (2006), online teaching and learning environment can be beneficial to both the students and teachers, which work well for the education goals in terms of curriculum. "E-learning is widely used in universities, other educational institutions and commercial organizations all over the world. It is growing more and more popular, and an increasingly large number of institutions are working on creating better tools for e-learning" (Hölbl The Online Journal of New Horizons in Education – April 2015 Volume 5, Issue 2 [www.tojned.net](http://www.tojned.net) Copyright © The Online Journal of New Horizons in Education 15 and Welzer, 2010). Hsu (2011) stated in her study that face to face learning grouped with E-learning, bridges the gap between students and instructors. According to Alkhanak and Azmi (2011), students like to take those courses, which include the use of Information Technology and point out that activities offered through e-learning systems are more useful and valuable as compared to traditional classroom activities. A study done in Oman on the use of MOODLE showed that those students who were introduced to online learning environment through MOODLE, had encouraging, optimistic and positive approaches and attitudes towards MOODLE. Their learning was improved and their understanding of the course material was better. Most students preferred a face-to-face approach, supported with online material and activities (like E-mails or chat sessions etc.), as a favourite mode of learning (Ahmad & Al-Khanjari, 2011). A study on the use of MOODLE in Higher Education reported from Saudi Arabia revealed that it is used mostly for sharing and distributing learning materials. Most of the participants found it easy to use and were highly satisfied. Teachers appreciated the possibility of an out-of-classroom communication with students, and the ease with which the resources could be managed digitally and provided to the students at all times. Respondents also noticed positive changes in their courses after the adoption of MOODLE though female students shied away from using the system or used fake names to conceal their identities and registered with male names (Daoud, 2007). A study done for an English language course in Slovenia showed that the MOODLE platform was helpful, useful and timesaving. Above all, it had a positive influence on the students' language learning. The results also showed that the learner type, i.e. whether a full-time or a part-time student, had no influence on a student's perceived usefulness of the virtual learning environment. Upon further examination of MOODLE, it was determined that all participants in the study downloaded lecture notes and homework activities (Zoran and Rozman, 2010). A study done in Hong Kong discusses the benefits and issues in using MOODLE for understanding the use of ICTs in education among the students and teachers there. The investigators observed that in times when the education budgets are very low, use of open-source systems instead of licensed ones substantially reduce the costs for schools and universities. MOODLE can provide a low cost solution in classrooms, particularly for schools (Kennedy, 2005).

### 4. Statement of the problem

Technological innovations are becoming very popular in the field of education throughout the world and is being used intensively to improve student performance. As we are witnessing a gap between implementation and learning of these innovative methods at the educational institutions. This study is focused on how to make students learn effectively and efficiently at Nizwa College of technology and to make them study according to their convenience from anywhere.

### 5. Objectives and Scope of the study

- ❖ To know the intentions of students on Moodle usage.
- ❖ To understand the level of usage of Moodle by the students at NCT.
- ❖ To analyze the improvements among students after using Moodle.

The scope of the study is confined to Nizwa College of technology covering various departments like Engineering, Information technology and Business and it is restricted to the e-learning method and the

respondents are limited to diploma year one and two only. The research has been conducted between September-December 2017.

## 6. Research Design and Methodology

It is a descriptive study, conducted to know the latent intentions of the respondents towards usage of Moodle. The area selected for this study are the students of Nizwa College of technology across three departments—Engineering, Business studies and IT. Out of a total population of students studying in three departments of NCT, a sample of 95 students were taken for our research which comprised a mix of Male and Female Students. The sampling method adopted for the collection of samples is simple random sampling method, wherein the students were contacted on random basis. Data is collected from primary and secondary sources. The supportive literature review and the conceptual framework are taken from secondary sources. Primary data is collected with the help of a structured questionnaire. The instrument consisted of closed ended questions which helps the respondents to give proper responses. A list of 17 questions are included that addresses the objectives of the study. Data is analyzed with the help of percentage method. Graphs and tables are presented that are relevant to the objectives of the study. Mean values were calculated for identifying the significant factors by using MS Excel and Chi-square test was used by using SPSS.

### Hypotheses

1. Ho: Different specialization students agree that they are comfortable using computer and internet  
Ha: Different specialization students do not agree that they are comfortable using computer and internet
2. Ho: Different specialization students agree that their learning scope has widened due to Moodle usage  
Ha: Different specialization students do not agree that their learning scope has widened due to Moodle usage
3. Ho: Different gender students agree that they are comfortable using computer and internet  
Ha: Different gender students do not agree that they are comfortable using computer and internet
4. Ho: Different gender students agree that their learning scope has widened due to Moodle usage  
Ha: Different gender students do not agree that their learning scope has widened due to Moodle usage

## 7. Results

Likert scale was used to analyze the data. The analysis was done based on four parameters i.e. awareness, understandability, applicability and value addition (AUAPVA). We calculated the mean score of all the variables. Then we find out the most significant variable in each parameter. The following table indicates the mean scores for each variable and also the most significant variable.

**Table no: 1 Mean score of all the variables (AUAPVA)**

Sl.no	Questions	Mean
1.1	The college has provided proper training on usage of E-Learning	<b>2.70</b>
1.2	The college gives me enough information about Moodle.	2.69
1.3	The college encourages the student to use e-learning	2.09
1.4	The teacher contribution is remarkable in using E-Learning.	2.62
2.1	I am prepared to learn and study in E-Learning environment.	2.62
2.2	I am comfortable using computer and internet.	<b>2.75</b>
2.3	I am prepared to learn the necessary skills required to be successful in the E-course learning.	2.56
2.4	E-Learning is very effective in helping me reach the course objectives.	2.52
2.5	E-learning is easy to use and also beneficial for students.	2.59
2.6	I can use the college Moodle anytime and anywhere (24x7)	2.61
3.1	The online discussion makes me independent to express my opinion.	2.64
3.2	I am able to maintain a schedule and complete work without any delay.	<b>2.65</b>
3.3	E-Learning gives students motivation and ease of study.	2.59
3.4	I had enough time to complete all my online activities and assignments online.	2.64
4.1	My learning scope has widened due to Moodle usage.	2.61
4.2	By learning in both online and face to face environment, I can interact with the course content more frequently.	2.64
4.3	I am able to enhance my skills in managing time.	<b>2.65</b>
4.4	E-Learning develops my critical thinking ability.	2.54
4.5	Moodle (E-Learning) facilitates in problem solving.	2.56
4.6	I am satisfied by the technical support provided by the college for E-Learning.	2.55

From the awareness perspective it was observed that the students agreed that the college is providing necessary training on the usage of Moodle and also enough information about Moodle is provided. It is also relevant that the students require more encouragement on Moodle usage from college. Student understanding of Moodle indicates that most of the students agree that they are comfortable using computers, internet and they are ready to study in the E-Learning environment. However, more effort has to be made to make E-Learning

effective in helping the students to reach their course objectives. From the application perspective we have found out that most students agree that they are able to maintain a schedule and complete their work without any delay. It is also relevant that students need more motivation and simplicity in learning and using Moodle. The improvement factor indicates that students are able to enhance their skills in time management, whereas more focus should be given developing critical thinking among students.

### Testing of Hypothesis

We used Chi square test for testing the hypotheses in our research. It was gender and specialization wise with reference to the other variables.

Ho: Different specialization students agree that they are comfortable using computer and internet

Ha: Different specialization students do not agree that they are comfortable using computer and internet

**Table no: 2 Specialization - I am comfortable using computer and internet.**

		I am comfortable using computer and internet.				Total
		strongly agree	agree	disagree	strongly disagree	
Business	Count	7	16	8	7	38
	Expected Count	11.2	13.2	8.4	5.2	38.0
IT	Count	11	15	7	1	34
	Expected Count	10.0	11.8	7.5	4.7	34.0
Engineering	Count	10	2	6	5	23
	Expected Count	6.8	8.0	5.1	3.1	23.0
Total	Count	28	33	21	13	95
	Expected Count	28.0	33.0	21.0	13.0	95.0

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.947 <sup>a</sup>	6	.030
Likelihood Ratio	16.960	6	.009
Linear-by-Linear Association	.594	1	.441
N of Valid Cases	95		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 3.15.

We sampled 95 students and evaluated that the number of students agree that they are comfortable using computer and internet was equal to the students do not agree that they are comfortable using computer and internet. The data was analyzed using Chi-square test. The null hypothesis was accepted  $X^2(6) = 13.947$ ,  $p = .030 \geq .05$

Ho: Different specialization students agree that their learning scope has widened due to Moodle usage

Ha: Different specialization students do not agree that their learning scope has widened due to Moodle usage

**Table no: 3 Specialization - My learning scope has widened due to Moodle usage.**

		My learning scope has widened due to Moodle usage.				Total
		strongly agree	agree	disagree	strongly disagree	
Business	Count	7	14	11	6	38
	Expected Count	7.2	15.2	12.8	2.8	38.0
IT	Count	4	19	10	1	34
	Expected Count	6.4	13.6	11.5	2.5	34.0
Engineering	Count	7	5	11	0	23
	Expected Count	4.4	9.2	7.7	1.7	23.0
Total	Count	18	38	32	7	95
	Expected Count	18.0	38.0	32.0	7.0	95.0

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.749 <sup>a</sup>	6	.022
Likelihood Ratio	15.708	6	.015
Linear-by-Linear Association	1.320	1	.251
N of Valid Cases	95		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 1.69.

We sampled 95 students and evaluated that the number of different specialization students who agree that their learning scope has widened due to Moodle usage was equal to the students do not agree their learning scope has widened due to Moodle usage. The data was analyzed using Chi-square test. The null hypothesis was accepted  $X^2(6) = 14.749$ ,  $p = .022 \geq .05$

Ho: Different gender students agree that they are comfortable using computer and internet

Ha: Different gender students do not agree that they are comfortable using computer and internet.

**Table no: 4 Gender - I am comfortable using computer and internet.**

			I am comfortable using computer and internet.				Total
			strongly agree	agree	disagree	strongly disagree	
Gender	Male	Count	13	8	6	4	31
		Expected Count	9.1	10.8	6.9	4.2	31.0
	Female	Count	15	25	15	9	64
		Expected Count	18.9	22.2	14.1	8.8	64.0
Total	Count		28	33	21	13	95
	Expected Count		28.0	33.0	21.0	13.0	95.0

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.659 <sup>a</sup>	3	.301
Likelihood Ratio	3.589	3	.309
Linear-by-Linear Association	1.252	1	.263
N of Valid Cases	95		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 4.24.

We sampled 95 students and evaluated that the number of students agree that they are comfortable using computer and internet was equal to the students do not agree that they are comfortable using computer and internet. The data was analyzed using Chi-square test. The null hypothesis was rejected  $X^2(3) = 3.659$ ,  $p = .301 \leq .05$

Ho: Different gender students agree that their learning scope has widened due to Moodle usage

Ha: Different gender students do not agree that their learning scope has widened due to Moodle usage



**Table no: 5 Gender -My learning scope has widened due to Moodle usage.**

			My learning scope has widened due to Moodle usage.				Total
			strongly agree	agree	disagree	strongly disagree	
Gender Male	Count		6	13	10	2	31
	Expected Count		5.9	12.4	10.4	2.3	31.0
Female	Count		12	25	22	5	64
	Expected Count		12.1	25.6	21.6	4.7	64.0
Total	Count		18	38	32	7	95
	Expected Count		18.0	38.0	32.0	7.0	95.0

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.127 <sup>a</sup>	3	.988
Likelihood Ratio	.128	3	.988
Linear-by-Linear Association	.083	1	.773
N of Valid Cases	95		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.28.

We sampled 95 students and evaluated whether the number of students who agree that their learning scope has widened due to Moodle usage was equal to the students do not agree that their learning scope has widened due to Moodle usage. The data was analyzed using Chi-square test. The null hypothesis was rejected.  $X^2(3) = .127, p = .988 \leq .05$ .

## 8. Discussions and Conclusion

E-learning is not just a change of technology. It is part of a redefinition of how we transmit knowledge, skills, and values to younger generations of students. E-Learning is not going to replace conventional methods and learning in classrooms, but it will create a better learning environment which is aimed to improve an individual's participation and achievement of goals in the learning process. On the completion of this research we can say that NCT is making adequate efforts towards making a complete E-Learning environment, still more efforts are needed towards few aspects. From the research it evident that students are able to understand and apply the online concepts. The learning scope of students has widened and they are also developing critical thinking ability. As this is the age of technology they want to use the technology in an efficient way.

Now a days the world tends to advance in technology and e-learning is one of that technologies which is growing fast. This research helped us to find out the students perspective towards E-learning and most of the student's aspects were covered. The results indicate that the college is providing necessary training on the usage of Moodle and also enough information about Moodle is provided. Student understanding of Moodle indicates that most of the students are comfortable using computers, internet and they are ready to study in the E-Learning environment. However, more effort has to be made to make E-Learning effective in helping the students to reach their course objectives. Students are able to maintain a schedule and complete their work without any delay and they are be able to enhance their skills in time management, Hence, students need more motivation and simplicity in learning and using Moodle. It is inferred that different gender and specialization students have difference of opinion in using computer, internet and their improvement in learning scope has widened due to Moodle usage.

## 9. Recommendations

Measures should be taken to increase the awareness among the students from various specializations by imparting induction programs. Improving the technical support will bring significant difference in students learning. The students and staff both are required to be trained extensively so that they can utilize the various features of Moodle. Few aspects are needed to be improved to make it more student friendly and easy.

## 10. Scope for further research

Present study can be extended to the different levels of students in various specializations at Nizwa College of technology and further it can be extended to all the colleges of technology in Oman to improve the e-learning effectiveness and enhance the knowledge of students in Oman.

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# Relationship Between Microeconomic Characteristics and Leverage Among Companies Listed in East Africa Securities Exchanges

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## Abstract

Leverage levels ought to be continuously monitored in any corporate since an uptake of huge amount of debts may trigger possibilities of financial distress especially if the debt is not serviced on time. There are costs associated with the amount of debt and if poorly constituted then there are chances of incurring huge financing costs. The current study was triggered on the need to understand whether profitability, firm size and asset structure have significant influence on leverage ratio among companies listed in East Africa. The study was informed by pecking order theory and Modigliani and Miller theory. The study adopted panel-correlation research design. A panel data set of 65 listed companies over the 2009-2013 period of analysis was analysed using panel data analysis methods. Results of the study showed profitability had a negative and significant influence on leverage while both firm size and asset structures had positive and significant influence on leverage. The study recommends that measures should be put in place to increase profit levels and increase listed company's asset base. Business operations should be intensified and debt levels to be closely monitored to mitigate the possibilities of financial distress.

**Keywords:** Leverage, Profitability, Firm Size and Asset structure.

## 1.1 Introduction

The choice of debt and equity in the firm's capital mix is one of the key decisions among organization finance manager. The cost benefit analysis should be evaluated and the most optimal mix of debt and equity should be used to finance the company's financial needs. Capital structure refers to firms financing strategy and financing tactics through the use of debt and equity securities as well as the timing for debt finance (Brealey and Meyers, 2003). Brealey and Meyers posited that a firm is in a position to issue differentiated compositions of debt and equity but it must ensure that they have combination which maximises its value and minimizes its overall cost of capital is attained. They noted that if a firm is purely equity financed all earnings will be enjoyed by ordinary shareholders. But if financed by equity and debt then firm's proceeds must be shared between the contributors of finance whereby the debt holders are entitled to receive benefits prior to the ordinary shareholders thus debt investors are exposed to lower risks as compared to ordinary shareholders as quoted by (Mwangi, Anyango and Ameyia, 2012).

A comparative study conducted in Europe to investigate the determinants of capital structure among firms operating in French, German and British firms. The study argued that the three countries were exposed to different financial system and traditions which were presumed to have influence on capital structure choice. Capital structure was measured using leverage ratio (total debt to total assets). Capital structure determinants were categorised into homogenous groups which composed of firm characteristics (profitability, effective tax rate, market to book ratio, firm size, liquidity and earning volatility) and market related factors (equity premium, term structure of interest rates and share price performance). The finding showed a significant positive relationship between firm size, term structure of interest rates, market to book ratio and share price performance in the overall sample. There was heterogeneous relationship between fixed assets ratio, equity market premium, profitability and effective tax rates and leverage ratio in the three countries (Antoniou, Guney and Paudyal, 2002).

A study conducted in China to explore the determinants of capital structure among the listed firms showed a significant positive relationship between firm specific factors and capital structure. Capital structure was measured using the ratio of book value of total debt to book value of total assets and also book value of long term liabilities to total assets. There was a significant negative relationship between profitability, firm size and capital structure. Further, there was a positive significant relationship between growth opportunities, tangibility and capital structure. Although, there was a positive relationship between financial distresses costs and capital structure it was not significant. Moreover, there was a negative insignificant relationship between tax shield benefits and capital structure (Chen, 2003).

Mishra, (2001) carried out a study in India to identify the determinants of Indian central PSU's capital structure. Capital structure was measured by a ratio of total borrowing to total assets has a negative significant relationship with profitability (return on assets), positive significant relation with tangibility (net fixed assets to total assets). Moreover, the findings showed an inverse significant relationship between tax rate and capital

structure. There was neither positive nor negative significant relationship between non-debt tax shield, volatility and firm size with firm optimal capital structure.

A comparative study was carried out in Ghana, to investigate determinants of capital structure among Ghanaian's firms were categorised into three groups; quoted firms, unquoted firms and small and medium enterprises. Both ratio of long term debt to total assets and short term debt to total assets were used as capital structure measures. The study hypothesised that firm's capital structure is determined by age of the firm, firm size, asset structure, profitability, firm growth, firm risk, taxation and managerial ownership among other factors. Results of the study depicted that there was a mixed significant relationship between firm age and whether a firm was quoted, unquoted or SME. Further, the findings showed a significant negative relationship between asset structure and capital structure among SMEs. Among the quoted firm there was a positive significant relationship between capital structure (short debt ratio) and a negative significant relationship with long-term debt ratio. There was a significant negative relationship between profitability and capital structure while had positive significant relationship (Abor, 2008). It against this backdrop the current article seeks to examine the relationship between micro economic characteristics and leverage among companies listed in East Africa securities exchanges.

## 1.2 Hypotheses of the Study

The current paper tested the following hypotheses;

- i.  $H_0$ : There is no significant relationship between profitability and leverage.
- ii.  $H_0$ : There is no significant relationship between firm size and leverage.
- iii.  $H_{04}$ : There is no significant relationship between asset structure and leverage.

## 2.0 Review of Related Literature

### 2.1 Theoretical Review

#### 2.1.1 Modigliani and Miller Hypothesis

The theory was developed in 1958 by Modigliani and Miller as such to explain capital structure irrelevance position. The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. The theory was based on the assumptions that: particular companies may be classified into the groups of a different risk level (risk class). The companies in the same group are burdened with the same degree of operational risk, measured as a standard deviation of equity profitability ratio, securities issuance and cost connected with their servicing are not included in the cost analysis, securities are optionally divided and information about the capital market is commonly available out of charge, there are no taxes and companies do not go bankrupt and for this reason interest on capital is the same for everyone because the interest rate on the capital market is deprived of risk. They initially came up with three propositions; Proposition I states that; the market value of any firm is independent of its capital structure, changing the gearing ratio cannot have any effect on the company's annual cash flow (Pluto, 2000). Proposition II states that; the rate of return required by shareholders increases linearly as the debt/equity ratio is increased i.e. the cost of equity rises exactly in line with any increase in gearing to precisely offset any benefits conferred by use of apparently cheap debt. In addition, they argued that the expected return on equity of a geared company is equal to the return on a pure equity stream plus a risk premium dependent on the level of capital structure.

Proposition III: Argues that; new investments hurdle rates will always be an average cost of capital and is not significantly influenced by the security used to finance an instrument. Therefore, there is complete independence between sourcing of finance and an investment project undertaken (Pluto, 2000).

Luigi and Sorin (2006), in their paper led subsequently to both clarity and controversy. As a matter of theory, irrelevance of capital structure can be proved under a range of circumstances. Fundamentally capital structure irrelevance can be broadly classified into classic arbitrage-based irrelevance propositions provide settings in which arbitrage by investors keeps the value of the firm independent of its leverage. Secondly, irrelevance proposition concludes that if a firm is operating in a perfect market then firm's value cannot be influenced by either capital structure or a firm's dividend policy. Although the theory does not provide realistic assumptions as to how an organization finances its operations it provides good reasons as to why financing decision matters in an organization.

#### 2.1.2 Pecking Order Theory

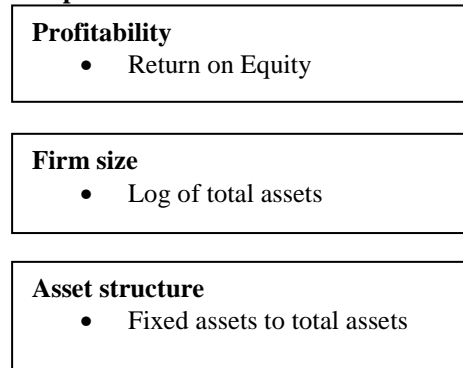
This theory was brought forth by Vasiliou, Eriotis and Daskalakis (2009) and they posited that there exists no optimal capital structure in any company. According to the theory an organization will prefer raising finances internally and upon exhaustion of internal sources as such to minimize on cost of financing. Although, it is hard to determine the most appropriate order to follow while raising company finances it is always appropriate to consider the cheaper sources first and minimize the possibilities of losing managerial controls (Jurkowski, 2005). Thus those companies which can manage to make huge profits and maintain a higher proportion should be encouraged to pursue profitability levels and consequently they will minimize costs associated with raising

capital.

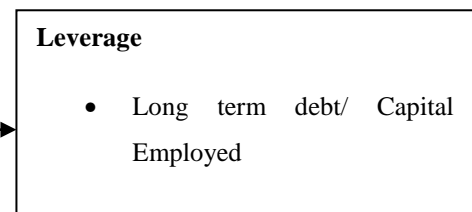
## 2.2 Conceptual Framework

A conceptual framework is a diagram which is used to show the relationship between dependent and independent variables in a study. In the current paper the diagram shows how profitability, growth, firm size and asset tangibility influences the leverage level among companies which are listed in East Africa Securities Exchanges.

### Independent variables



### Dependent variable



**Figure 1 Conceptual Framework**

## 2.3 Empirical Literature Review

A Nigerian study conducted by Yusuf et al., (2014) to investigate the relationship between capital structure and profitability of conglomerate, consumer goods and financial services firms quoted in Nigeria Stock Exchange. Probability sampling techniques was used to select the data of ten companies from the three sectors for years 2000 to 2011 thus the sample size was 120. They used return on assets (ROA), return on equity (ROE) as measures of profitability while debt to equity ratio (DER) and debt to asset ratio (DAR) measured the capital structure. The study used correlation design. Results of the study depicted that there is no significant relationship between profitability and capital structure across all firms with exclusion of 7up and Nestle which had negative significant relationship. After categorization into different companies the study depicted there was a significant relationship between profitability and capital structure. Firms operating in the financial sector showed a negative relationship between return on equity and debt to equity ratio as well as debt to assets ratio. The conglomerate firms had negative insignificant relationship between ROA and debt to equity ratio. From the findings it was deduced that there is a significant relationship between gearing and firm profitability. In the current study it would have been appropriate to use stratified sampling technique to select the respondent in relation to their total population. The choice of ordinary least squares (OLS) was inappropriate and it would have been appropriate to use either fixed or random effects regression methods because the data was panel upon testing the applicability of either model by use of Hausman test.

Pouraghajan et al., (2012) on their study to investigate the relationship between capital structure and firm performance evaluation measures among firms listed in Tehran stock exchange. To attain the main objective of the study secondary panel time series data was collected across 12 industrial groups between 2006- 2010. In the study firm performance was measured using return on assets and return on equity. The study findings showed a significant negative relationship between ROE and debt ratio. In addition, there was a negative relationship between return on equity and debt ratio (capital structure).

Fareed et al., (2014) investigated the relationship between capital structure and profitability. To attain the main purpose of the study 22 listed firms were considered for period of seven years between 2006 -2009. Firm's capital structure was measured using ratio of debt to equity while profitability was measured using return on equity and return on assets. The study findings depicted that there is a negative significant relationship between EBIT (Earnings before interest and tax) and leverage.

Past studies have showed contrasting relationship between firm size and capital structure. For example Huang and Song (2002) and Lihn (2014) showed a positive significant relationship between firm size and leverage, this was attributed to the fact that large firms have high chances of access credit from financial institutions. Similar, findings were found in Pakistan among listed companies in power and sector, firm size was measured as log of total sales (Fareed, Zulfiqar and Shahzard, 2014).

An asset can be defined an item of value in business which can be used to generate revenue in an enterprise. Assets can be classified into tangible and intangible assets: tangible assets include both current and non-current physical assets such as land, buildings, machinery and inventory while intangible assets are non-physical assets such as patents, trademarks. Asset tangibility refers to the ratio of tangible to total assets (Vatavu, 2012).



Bereznicka (2013) defined asset structure as a composition of financial fixed assets, tangible fixed assets, current assets and current investments and cash at hand or bank as ratios of the total assets. Capital structure was measured using the ratio of total debt to total assets, provision to total debt, long term debt to total assets and short term debt to total assets. The study findings across all countries under consideration showed that there is a negative significant relationship between assets structure and capital structure therefore an increase in company's assets was associated with a decrease in leverage ratio across firms.

### 3.0 Research Methodology

#### 3.1 Research Design

A research design can be defined as schematic guideline show step by step guide of how the study will be carried out (Kerlinger and Lee, 2000; Kombo and Tromp, 2006). The current study adopted panel-correlation design, (Oso and Onen, 2009) posited that correlation design aims at showing the causal relationship between the dependent and independent variables, while it was panel since it relied on panel data which was collected from annual financial statements of listed companies in East Africa securities exchanges. It is appropriate for the current study since the researcher aims to show the determinants of capital structure among listed firms in East securities exchange.

#### 3.2 Sampling Procedure and Sample Size

According to Oso and Onen (2009) sampling is the processing a subset of the target population to be its true representative in the study. In the current study non-probabilistic sampling technique was used to select the companies to be included in the study. Mugenda and Mugenda (2008) argued that non-probabilistic sampling techniques are used to select individual through subjectively defined methods whereby the researcher defines the minimum inclusion criteria in a given study. In the current study 59 companies which were quoted in NSE, 18 companies quoted in USE as well as 20 companies listed in DSE in 2009 - 2013 will be considered. The choice of five year period was guided by past studies such as Tarus (2011), Chumba (2012) which considered a five year period.

#### 3.3 Data Collection Instruments

Creswell (2008) argues that prior to research a researcher ought to develop a data collection instrument which is purely meant to measure, quantify or observe the data under investigation. In the current study a document check index (DCI) will be used as a principal instrument for data collection.

#### 3.4 Data Analysis

The current study seeks to examine the relationship between microeconomic characteristics and leverage among companies which are listed in East Africa securities exchanges. However, not all the firms currently listed since some firms have not been listed in all years from 2009 to 2013. In detail, financial reports during the five year period were collected to obtain the necessary financial data of each firm. Then the data was transformed into variable's data through calculation as shown in table 1 of operationalization of variables. The variables were classified as shown in the conceptual framework; profitability, firm size and asset structure. The data served the purpose of testing the relationship between independent and dependent variables –leverage. Data was analysed with the use of E-views version 7.

**Table 1 Operationalization of Variables**

	Variables	Measures
Y	Leverage	Long term debt to Capital employed
X <sub>1</sub>	Profitability	Return on equity
X <sub>2</sub>	Firm size	Logarithms of Total assets
X <sub>3</sub>	Asset structure	Fixed assets to total assets

#### 3.4.2 The Model

The nature of data was cross-sectional and time series, which is called the panel data. Asteriou and Hall, (2011) argued that panel data analysis is considered when the researcher seeks to investigate the impact of various variables on a particular dependent variable. In addition, the method is commonly preferred by scientists since it provides for the inclusion of data for N cross-sections i.e. firms, individuals, organizations and the T time period i.e. years, quarters and months. A multiple regression model for panel analysis can be given as follow:

$$y_{i,t} = \alpha + \beta_1 x_{1i,t} + \beta_2 x_{2i,t} + \beta_3 x_{3i,t} + \beta_4 x_{4i,t} + \epsilon_{i,t}$$

y = Leverage, x<sub>1</sub> = Profitability, x<sub>2</sub> = Firm size, x<sub>3</sub> = Asset structure,  $\epsilon_{i,t}$  = error term

The following diagnostic tests will be carried out.



**Table 2 Panel Data Diagnostic Tests**

Test	Test Used	Conclusion
Use of pooled or random effects model	Breusch Pagan LM test	If P value >0.05, use pooled effects model. If p value >0.05, there are no time fixed effects do not use two way model or introduce dummy variables
Time Fixed Effects	F statistics	
Heteroskedasticity	Modified Wald Test Wooldridge Drukker	If P value <0.05, presence of non-uniform variance.
Serial correlation	test	If P>0.05, no serial correlation
Random or fixed effects	Hausman test	If p value>0.05, use random effects model.

#### 4.0 Results of the Study

In the following section data analysis and discussion of the findings will be carried out. Panel diagnostic tests for the panel data will be presented followed by correlation analysis and finally multiple linear regressions to show the relationship between micro economic characteristics and leverage among companies listed in east Africa securities exchanges.

#### 4.1 Panel Diagnostic Tests

In order to choose the appropriate model to fit between pooled effects and random effects regression model, LM test was used to test the null hypotheses which states that there is uniform variance across entities under consideration against the alternative which argues that there is no uniform variance across entities. Since the p value in the current study was greater than 0.05 there was no enough evidence to warrant rejection of the null hypotheses therefore the most appropriate model to fit the data was pooled effects regression model.

Testparm test was carried out to examine the fixed effects across the entities. The test assumed that all dummies in the model were zero. Results of the study revealed that there was no need to introduce dummy variables or use two analysis since the p value was greater than 0.05.

Since both heteroskedasticity and serial correlation had p values greater than 0.05, then there was no enough evidence to support rejection of the null hypotheses and we conclude that there was uniform variance across the error terms and there was no serial correlation amongst the variables. There was no need to carry out Hausman test since pooled effects was fitted on the data.

**Table 3 Results for Panel Diagnostic Tests**

<b>Breusch –Pagan LM Test</b>	$\chi^2$ -value	p-value
	0.41	0.684
<b>Test Results for Time Fixed Effects</b>	F-value	p-value
	0.93	0.7823
<b>Heteroskedasticity test</b>	$\chi^2$ -value	p-value
	18.94	0.041
<b>Serial correlation</b>	F-value	p-value
	1.346	0.569

Pearson correlation analysis was carried out to examine the strength of the relationship between leverage and micro economic characteristics among companies listed in East Africa securities exchanges. There was a positive and significant relationship between profitability and leverage among companies listed in East Africa securities exchanges, ( $\rho = -0.021$ , p value<0.05). Secondly, there was a positive and significant relationship firm size and leverage ( $\rho = 0.114$ , p value < 0.05). Finally, there was a positive and significant relationship between asset structure and firm performance ( $\rho = 0.386$ , p value < 0.05).

**Table 4 Correlation Analysis**

	Leverage	Profitability	Firm size	Asset Structure
Leverage	1			
Profitability	-0.021	1		
	0.00	----		
Firm size	0.114	-0.209	1	
	0.046	0.000	----	
Asset Structure	0.386	-0.171	-0.077	1
	0.000	0.003	0.178	----

Table 5 shows the pooled effects regression results. Regression analysis showed that profitability, firm size and asset structure had joint significant influence on leverage among companies listed in East Africa, ( $F=27.997$ , p value <0.05). This shows that one of the slope coefficients was none zero. An R squared of 0.88,

shows that 88% of the variations in leverage can be explained by profitability, firm size and asset structure while the remaining percentage can be accounted for by other factors excluded in the model.

The first hypotheses of the study stated that there was no significant relationship between profitability and leverage among companies listed in East Africa. Results of the study revealed that there was a negative and significant relationship between profitability and leverage ( $\beta = -0.092$ ,  $p$  value  $< 0.05$ ). This implied that holding other factors constant a unit change in profitability decreases leverage by 0.092 units.

The second hypotheses of the study stated that there was no significant relationship between firm size and leverage among companies listed in East Africa. Results of the findings revealed that there was a positive and significant relationship between firm size and leverage ( $\beta = 0.040$ ,  $p$  value  $< 0.05$ ). This implies a unit change in firm size while holding other factors constant increases leverage by 0.04 units.

The third hypotheses of the study stated that there was no significant relationship between asset structure and leverage. Results of the study revealed a positive and significant relationship between asset structure and leverage ( $\beta = 0.110$ ,  $P$  value  $< 0.05$ ). This implies that a unit change in asset structure increases leverage by 0.11 units.

**Table 5 Pooled Effects Regression Analysis**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.871	0.14	6.01	0.00
Profitability	-0.092	0.03	-2.78	0.01
Firm size	0.040	0.01	4.49	0.00
Asset Structure	0.110	0.05	2.22	0.00
R-squared	0.880	Mean dependent variable		0.202
Adjusted R-squared	0.848	S.D. dependent variable		0.222
S.E. of regression	0.086	Akaike info criterion		-1.876
Sum squared residual	1.799	Schwarz criterion		-1.095
Log likelihood	350.021	Hannan-Quinn criterion.		-1.563
F-statistic	27.997	Durbin-Watson statistics		1.425
Prob (F-statistic)	0.000			

## 5.0 Discussion, Conclusion and Recommendations

The current study sought to examine the relationship between microeconomic characteristics and leverage among listed companies East Africa securities exchanges. The study adopted panel-correlation research design and panel secondary data was collected from annual audited financial statements. LM revealed that the most appropriate model to fit the data was pooled effects regression model. Study findings revealed that 88% of the variations in leverage can be accounted for by profitability, firm size and assets structure jointly while the remaining percentage can be accounted for by other factors which were excluded in the model.

Profitability revealed a positive and insignificant relationship with leverage. These findings are in tandem with firms financing activities as brought forth by pecking order theory which argues that corporate financing calls for financing using internal sources which are cheaper compared to external sources which are acquired after incurring floatation's costs. These results contrasted Githira and Nasieku (2015) who found an insignificant positive relationship and they agreed with Tesfaye and Minga (2013) who reported insignificant relationship. From these findings it can be deduced though there are prospects for better profits within the East Africa region, listed companies have mixed fortunes and though there are not borrowing huge long term amounts there are possibilities of using short term financing to finance most of their business activities which may threaten the survival of them if they may fail to service short term debts on time. All listed companies should intensify their operations so as to increase their profits levels and consequently minimize dependency on borrowed capital.

There was a positive and significant relationship between firm size and leverage. The results were in support of the provisions of trade off theory which argues that the higher the firm the higher the possibility of being leveraged and vice versa. An increase in firm size is associated with increased collateral security which will enhance firms borrowing capacity and they may increase the borrowed capital so as to increase the interest tax shield benefit and use the tax savings to venture into other business opportunities. Although these results were in agreement with Tesfaye and Minga (2013) they contrasted Githira and Nasieku (2015) who found positive and insignificant results. Although big firms are better placed to borrow due to their collateral securities there is need for SMEs to be provided with alternative sources of finances as such to play their role on economic development and more firms should be listed in the securities exchanges even if it calls for the creation of a segment targeting SMEs.

Finally, there was a positive and significant relationship between asset structure and leverage among companies listed in East Africa. Although, theoretically it is alluded that asset base has positive significant influence on borrowing the study contrasted the findings of Nadeem and Wang (2013) and Erdinic et al, (2009)

who reported an inverse and significant relationship between asset structure and leverage but they confirmed positive and significant relationship which was registered by Tesfaye and Minga (2013). From the findings it can be deduced that most firms in the region have huge amount of long term debt due to increased levels of their asset base.

There is need for causal study be carried out to examine the relationship between micro economic characteristics and leverage among listed companies in East Africa. Moreover an examination of panel threshold of capital structure needs to be examined within east Africa. An examination of whether there are chances of financial distress, earnings management and capital structure to be examined.

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# Problem Identification on the Implementation of Student Entrepreneurial Program

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## Abstract

This study aims to identify the problems which arise in relation between Student entrepreneurial program (SEP) with interested parties, such as students, managers, and practitioners Small and Medium Enterprises (SMEs). This research is very important. When the problem is identified, find the solution, then it is expected the program can bring up many entrepreneurs who can support the economy of a country. The identification process is done using the violation theory framework by comparing the expectations of interested parties with the practices that occurred in the implementation of SEP so far. Differences between expectation to practice are identified as a constraint or problem. Data were collected by interviews with informants and document tracking implementation of SEP (tracer study). The results of data analysis indicate there are a number of mismatch expectations with the practice of SEP during the implementation of the program, or there is a problem. The implication is SEP need to perform a number of actions to address the problem in order to be success.

**Keywords:** Student, entrepreneurial, Problem

**JEL Classification:** M21

## 1. Research Background

Student entrepreneurial program aims to provide knowledge, skills and spirit of entrepreneurship in order to change the mindset (*mindset*) of job seekers become creators of jobs (*job creators*) as well as being candidate a tough and successful entrepreneur facing global competition (guidelines SEP, 2015). The program is also aimed at encouraging institutional or entrepreneurial units in college in order to support the development of entrepreneurial program. As a final result, it is expected a decrease in the numbers unemployed graduates of higher education.

But in reality, the SEP has not been able to reduce the unemployment rate of university graduates in Indonesia. Data from the Central Bureau of Statistics states that the level open unemployment in Indonesia in February 2014-February 2015 increased 300 thousand people from the previous year with the number of unemployed college graduates as much as 819,714 people (an increase of 226,158 people from the previous year). Based on these data, a solution is needed to increase the role of SEP in reducing the number of unemployed college graduates in Indonesia.

One of the State Universities who have been conducting SEP since 2009 is University of Jenderal Soedirman (UNSOED). UNSOED facilitates students with entrepreneurial interests and talents to start entrepreneurship with the science and technology base under study. Facilitation through SEP includes entrepreneurship education and training, internships, business plan preparation, capital support, and business assistance. Based on interviews with the chief executor of SEP 2015, Ir. Endro Yuwono, MS., a necessary review of the SEP is needed to know the implementation for the program. Is there any problem that could hamper future SEP's effectiveness and what SEP managers should do to advance the program.

This study try to identify factors that become difficulties in managing SEP in UNSOED. The identification of these factors is done by knowing the expectations of all stakeholders in student entrepreneurship program. By knowing the expectations of stakeholders such as students SEP, managers and owner of small and medium-sized enterprises (SMEs) that are partners SEP and the practice of SEP.

## 2. Theoretical Review

### 2.1 Expectancy Violation Theory (EVT)

EVT is a communication theory that analyzes how individual responses to violations of social norms or something that is expected, that has not been anticipated. This theory was popularized by Judee. K. Burgoon in the late 1970s. According to this theory, expectation is formed from the individual's needs, the norms he believes or his desires. Violations of expectation will force individuals to repair / modify her expectations. This theoretical prediction is a positive violation on expectation will increase the interest and contrary to the violation that is negative. A positive violation means that the individual gets a response more than expected while the negative violation means the individual is getting less than expected response. More response than expected will make the individual happy or satisfied. While the responses were less indicate a problem or dissatisfaction. Both types of these responses will make individuals modify their expectations.

Guerrero and Burgoon (1996) states that in the event of a breach of an expectation that is positive (got

something more than expected), then the individual will demonstrate a positive attitude for such violations. For example, if the individual succeeds in making a presentation and gets a lot of applause from all the visitors then the individual will be compelled to smile because it gets more appreciation than expected. Another example is when a subordinate does not respect his superiors in working appropriately, then the boss tends to give bad score for them. The boss expectation is to earn the respect appropriately so that when he does not get the respect according to his expectations, then the resulting discontent that affect the judgment to the subordinates.

Expectations are formed on each individual in relation to other individuals and the individual relationship with the organization. Expectation in the relationship between individuals occur when there is a connection or communication between individuals, while expectations between organizations and individuals formed as a member of an organization or to follow a program. Participation of individuals in an organization or program will bring expectation. For example, when individuals follow a diet club, then his expectation is loss of weight several kilograms in accordance with the targets set. If within a certain time, the target was not achieved (negative violation on his expectations) individuals will display a negative attitude, for example in the form of withdrawal from membership in the club.

Prediction expectancy violation theory is used as a reference framework for identifying the existing problems in the relations between Student entrepreneurial program with interest parties as shown in figure 1.

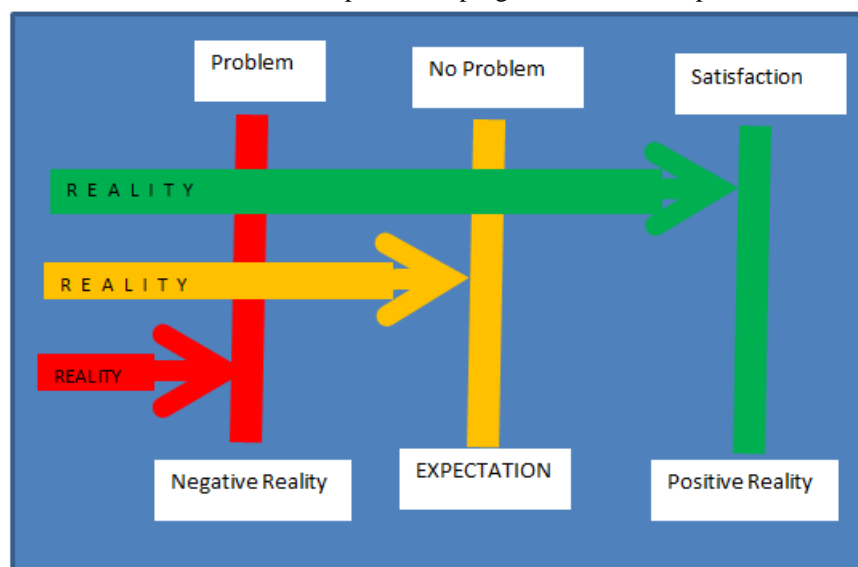


Figure 1. Framework to identify problem in the implementation of SEP

## 2.2 Entrepreneurship

Entrepreneurship according to Hisrich (2008) is the process of creating something new, valuable, taking advantage of effort and time required, taking into account social, physical, and financial risks, and receiving rewards in the form of money and personal satisfaction and independence. The definition according Hisrich (2008) emphasize four basic aspects for an entrepreneur, including: (1) Entrepreneurship involves the process of creating something new; (2) Entrepreneurship requires time and cost; (3) Entrepreneurship has certain risks; (4) entrepreneurship involves rewards as an entrepreneur (Wijanto, 2009).

Entrepreneurship has been recognized as central to economic growth, which *entrepreneurial* innovation has driven economic growth in some countries like Israel, Ireland, Turkey, India, and China (Koster & Rai, 2008). Barringer and Ireland (2006) points out three reasons why *entrepreneurial* behavior has a positive effect on the strength and stability of the economy, namely the provision of jobs, innovation, and globalization. An entrepreneur according to Kasmir (2011) has several characteristics of entrepreneurs who are said to succeed are: 1) have a clear vision and purpose; 2) achievement oriented; 3) dare to take risks; 4) hard work, 5) be responsible for all activities he or she runs, both now and in the future; 6) commitment to the various parties is a trait that must be upheld and must be kept; and 7) develop and maintain good relationships with various parties, whether directly related to undertakings or not.

Creation of successful entrepreneurs can not go through an instant process. Research conducted by Raposo (2011) shows that entrepreneurship education and entrepreneurial activity has a positive relationship. The education system should be oriented towards entrepreneurship value. Supporting these findings, the research results Marques (2012) shows that the entrepreneurial learning coaches and teachers should act not only as a promoter of cultural thinking, holistic and critical, but also as a facilitator to develop a supportive environment for learning. In the order of contributions to promote entrepreneurship education, there must be other programs



or training initiatives open to everyone.

### 2.3 Student entrepreneurial program(SEP)

Encouraging institutional strengthening policies and programs the increase of entrepreneurship activity and the acceleration of growth of new entrepreneurs with IPTEKS base is needed. On the basis of that thought the Directorate Jenderal of Higher Education developed the Program Student Entrepreneur (SEP). In fiscal year 2009, the program has implemented in 83 (eighty-three) state universities and 179 (one hundred and nine) private universities under coordination of Kopertis.

Student entrepreneurial program (SEP) is one of the programs in the education system in college that aims to 1) Build *soft skills* or entrepreneurial character; 2) Develop new entrepreneurs and have employers mind-set, 3) Encourage growth, development or institutional formation (unit / center) managing entrepreneurship programs in universities; 4) Encourage the formation of educational or learning model entrepreneurship in college.

Thus, in its implementation, SEP should be integrated and synergized with existing programs, among others, Co-op Program, Business Lecture and other entrepreneurship programs. Based on the description it can be seen that the implementation of Student entrepreneurial program is an appropriate effort to enhance the entrepreneurial spirit of students and the college as a concerted effort to reduce the unemployment rate from the well-educated college graduates by creating new entrepreneurs.

The Directorate Jenderal of Higher Education set the Model of Student entrepreneurial program in 2009 as follows:

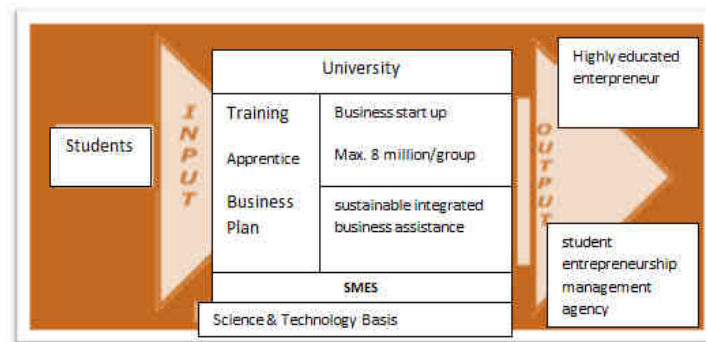


Figure 2. Model of Student entrepreneurial program

## 3. Research methods

### 3.1 Research Approach

This study uses a qualitative approach, a patterned research investigations where the data and statements obtained from the direct interaction between researchers, the object under study and those that exist in the study.

### 3.2 Types and Nature of Research

This research is a case study study on Student entrepreneurial program at University of Jenderal Soedirman. This research is the result of applied research needs to be presented to the *stakeholders* in UNSOED SEP. This research is also an explanation research that is seeking explanation about the best management of SEP that can be applied in research location.

### 3.3 Informant and Research Setting

Informant in this research are student at the University of Jenderal Sudirman, manager of Student entrepreneurial program (SEP), and practitioners of Small and Medium Enterprises (SMEs). The object under study is Student entrepreneurial program. The study was conducted for eight months.

### 3.4 Technique Data collection

Data required in this study include primary data and secondary data. Secondary data collection techniques include documentation and literature. While primary data was collected by using in-depth interview technique, Focus Group Discussion (FGD), observation and survey on SEP stakeholders such as SEP participant students and SEP managers.

### 3.5 Technique and Data Processing Phase

Data processing techniques are based on comparative analysis (Moleong, 2001). Data processing is collected using data reduction methods, data display, and data categories.

Data processing stage to answer the purpose of research is as follows: first, conducting interviews, second,

doing observation and third, matching the results of interviews with observation. Interviews were conducted to gather information on the expectations of the stakeholders SEP, whereas observations conducted to determine the real condition in the implementation of SEP. Furthermore, matching of expectation (from interview) and reality (from observation result). If the results of observations are not in line with expectations will be considered a violation of expectation and are identified as factors constraining the success of SEP. In this case the focus of the research is on the violations that are negative.

### **3.6 Data Quality Test**

Data quality test is done by using triangulation of source and triangulation of data. Triangulation of sources is a form of data quality testing conducted by comparing and check the degree of confidence of an information obtained through time and different tools in qualitative methods. While triangulation method is check the degree of confidence of the findings of research results with several sources of data with the same method.

## **4. Results and Discussion**

### **4.1 SEP Unsoed Profile**

At the University of Jenderal Soedirman (UNSOED) Student entrepreneurial program (SEP) began in 2009. This program aims to facilitate students who have entrepreneurial interests and talents to start entrepreneurship with the base of science and technology being studied. Facilitation through SEP includes entrepreneurship education and training, internships, business plan preparation, capital support, and business assistance. Implementation of SEP activities in synergy with Student Affairs Section Unsoed. Therefore, many places and facilities use facilities owned by Unsoed Student Affairs Department. Furthermore, student affairs section manager and his team carry out the implementation process SEP ranging from socialization to the stage of submission of the final report.

### **4.2 The Expectation of SEP stakeholders**

SEP stakeholders include students, SEP and SMEs managers who are partners of the SEP. Each stakeholder has different expectations. Result of interviews reduction regarding to the expectations of every stakeholder is as follows:

#### **4.2.1 College student**

- 1) Regulations related to the implementation of the SEP made more detailed, taken example, on the format of the reports required for SEP program accountability report.
- 2) Coordination between supervisors and students is further improved so that no miscommunication occurs.
- 3) Need a more continuous assistance to SEP Recipients so that problems faced by SEP participants in running their business can be resolved and business run not stagnate / stop
- 4) Improving the quality of monitoring process because there are some cases due to monitoring process to the business location cause by the busy professor who monitors.
- 5) Schedule are less structured and uneven information specially related to final report.
- 6) Allocation of the funds provided can be improved and better targeted.
- 7) Need organized training in the management team to improve the teamwork and the business continuity.

#### **4.2.2 SEP Manager**

1. Expanding the socialization process and undertaking a strategy to foster a culture of business entrepreneur interest and the success of the SEP program among students. This can be done in the following way:
  - a) Socialization and Strategy through the Department or Study Program
    - Integrating SEP activities that are followed by students with data base in the department / program study so that besides being responsible to SEP managers at the center, the students receiving SEP also responsible for the department. This can be done by requiring the student to submit the SEP report as one of the requirements to follow the awareness.
    - In the SEP report is also included students curriculum vitae to trace the existance of the business program conducted by the students after they graduate from the university. So there should be information about address, home phone number, and email address.
    - Networking with other business units
  - b) Socialization and Strategy on Student Activities / Student Activity Unit
    - Insert the SEP program in the annual work program of each appropriate Student Activity Unit
    - Socialization of SEP program to the Student Activity Unit organizer and members and their coaches
    - Hold a workshop on SEP proposal writing for the Student Activity Unit organizer
    - Establish a special SME SEP at faculty level parallel to others program for which there is no similar Student Activity Unit
    - Recruitment Mechanism of Student Activity.



c) Socialization and Strategy in the course

- Entrepreneurship courses are required to give structured task of preparing proposal with SEP format.
- Introductory Business Course must give structured task of preparing proposal with SEP format.
- Award a student by giving A for entrepreneurship courses to students who won the competition at the national level SEP

d) Socialization and Strategy to New Students

- Socialization SEP to freshmen through seniors who have been funded or national level following the SEP Expo
- Involving SMEs to assist new students make a proposal SEP from start to upload
- Asking for help faculty Academic Advisors guidance to motivate students to make SEP
- Holding SEP competition among faculties

e) Socialization and strategies to enhance student motivation

- Student awards that receive SEP program at Faculty level are posted on bulletin boards and certified
- Opened stalls selling the products of the faculty within the SEP program to help market their products and press releases in newspapers
- Increase motivation and awareness of the benefits of the SEP activities.

2. Business plan training is conducted on each faculty in depth and on target with deep socialization and in-depth training of trainees. The selection of participants can be done by requiring the candidates to submit pre-proposals first then selected which has an interesting business description.

3. There should be a briefing to the assistants at the beginning of the SEP period to integrate perceptions and understanding of the provisions of the SEP Program

4. There needs to be a provision in the proposal on the percentage of distribution of activities SEP budget

5. In the manual there is an apprenticeship activity, but the activity is not implemented. If the apprenticeship activity is less effective, it can be replaced by requirement for students to study in one of the SMEs and make the report of SMEs activity both in terms of its products and its business management. The report is a prerequisite for the disbursement of funds on the last stage (20%). The report should mention the full address of SMEs, owners and phone numbers to be proven by the companion.

#### 4.2.3 Practitioners of SMEs

- 1) The existence of clear rules concerning the internship activities especially related to the implementation guidance, technical guidance, as well as the rights and obligations of apprentices and SMEs so that apprentices can be more focused
- 2) The time of apprenticeship must be clearly arranged and coordinated with SMEs several months before the apprenticeship takes place so that SMEs can condition as much as possible so that SEP participants can gain knowledge in the place of internship maximally.

#### 4.3 Real Practice on the implementation of SEP in UNSOED

The results of observations on the implementation of the SEP in 2015 and 2016 show the following information:

1. Students who follow outreach programs different to students who attend SEP.
2. The apprenticeship program that should be participated by SEP students is not done.
3. No SMEs are involved in the implementation of SEP
4. Student of SEP participant does not fulfill its obligation pursuant to the stipulation of SEP. Some participants did not submit a final report on their SEP-funded efforts.
4. The socialization process is less effective and less widespread
5. Business training plan carried out at the university level is lacking in because only delivered systematic writing and submission success stories of entrepreneurs who have succeeded.
6. Faculty sometimes only send unintentional students to follow the training. They do not consider whether the student has an entrepreneurial interest or not.
7. Training time is very limited. It is only conducted in one day.
8. In each faculty there is only one companion and socialization activities or SEP activities are not integrated with department or major.
9. There is provision for groups or individuals who have earned the previous year and the successful SEP will be funded again on the following year, but in the reality, they do not have priority.
10. There is no understanding among the companions of the jury
11. There has never been *brainstorming* for the companion to unify the vision, mission, and understanding of the SEP program included in the assessment of the proposal.
12. Assessment to the proposal was different because there was no unified perception of the judges / assistant
13. The funds are often late
14. There are indications that some students are just trying to get funds and then run and do not responsible to finished the program.

15. There has been no effort from the university to track students receiving SEP program in terms of business continuity
16. The responsibility of the student only upon execution of the program.

#### 4.4 Identify constraints in the management of SEP

By using the approach of expectancy violation theory, that match the expectations of stakeholders and the fact that occur in the implementation of the identified violations SEP negative, potentially a barrier for SEP history of success. The results of identification are as follows:

1. Students lack of discipline in complying with the rules laid down in SEP.
2. No maximal socialization
3. Lack of number of supervisors
4. Frequency of guidance from low monitoring lecturers
5. Less stringent supervision
6. There is no SMEs involvement
7. There are no binding agreements on students and clear sanctions for breach of agreement.
8. Unclear indicator of valuation for grants so that students are not motivated to make a good business plan

### 5. Conclusions and Recommendations Research

#### 5.1 Conclusion

1. Eight problems arising from the management SEP implemented include the removal of apprentice that lead to failure to achieve some of the goals written in the manual.
2. The identification results show the discrepancy between the expectations of stakeholders with practical implementation of the SEP. This discrepancy raises disappointed that can hinder the success of the SEP

#### 5.2 Suggestion

1. To reach the objectives and benefits that have been written in the book of guidelines, then the internship activity should be raised again among the students, though in different ways.
2. The provisions on the conduct of the manual should be revised again to establish a clear indicator of success.
3. SEP activities are very important to be integrated with department in the faculty.
4. It is necessary to make complete data about SEP recipient students so that the SEP receiver alumni can be traced to find out the benefits of the SEP program after they graduate.
5. Consideration should be given on the amount of capital provided by considering the purpose of the grant, not only for equalization among the participant if SEP really want to establish a reliable entrepreneurs.
6. Further research needs to be done to identify appropriate ways to overcome problems in the implementation of entrepreneurial student programs. The next research can do the preparation of the concept to model the program of entrepreneurial students better and test the concept.

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# Strategies Considered Effective by Business Educators for Quality Assurance in Business Education Programme in Universities in South-South Nigeria

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## Abstract

The study was designed to find out the strategies considered effective by business educators for quality assurance in business education programme in universities in south-south Nigeria. Two research questions were posed and two hypotheses were tested at 0.05 level of significance. Population of the study comprised fifty four business educators in universities in south-south Nigeria. The study was on a descriptive survey design. Data were collected for the study through the administration of validated questionnaire on the respondents. The test-retest method was used to establish the reliability of the instrument and the overall correlation coefficient of 0.94 was obtained. The mean statistics were used to answer the research questions while z-test statistic and analysis of variance (ANOVA) were used to test the hypotheses. The findings of the study revealed that business educators considered Moderation of examination results and In-service training given to career academic as effective strategies for quality assurance in business education programme. Based on the findings, it was recommended among others that these strategies be properly monitored to ensure quality assurance in business education programme in universities.

## Introduction

Business education which is a sub-set of the general education programme falls within the spectrum of vocational education. Jimoh-Kadiri and Bupo (2011) described business education as the transfer of pedagogical and business competencies necessary for teaching business attitudes, concepts, skills and knowledge. Business education is therefore that aspect of educational training which an individual receives with the primary motive of enabling him to acquire adequate attitudes, concepts, knowledge, understanding and skills in business activities for vocational usage in careers as an administrator, manager or teacher wherever he may find himself in the business world.

According to Aliyu (2006), the objectives of business education includes to develop a mature understanding of the general nature of business, provide the needed background for teaching in business subjects, provide training in specialized phases of business activity and to lay a cultural and ethical foundation for the development of the fore-going objectives. For the objectives of business education and other inherent benefits of education to be realized, there is need therefore, to ensure quality and sustainable standards in the education system. With respect to education, quality is seen by Oladipo, Adeosun and Oni (2009) as the ability or degree to which an educational system conforms to established standard and appropriateness. Therefore, quality in education means the relevance and appropriateness of the education programme to the needs of the community for which it is provided.

On the other hand, strategy is the technique or mechanism put in place to maintain the degree of quality of excellence of a product or service. As it applies to quality assurance in education, strategy is the mechanism by which an educational system ensures that the service it delivers or intends to deliver serves the purpose for which it is intended and remains relevant and appropriate to the needs of the society. It involves series of operational techniques and activities which include all actions taken when requirements for quality are met.

Quality assurance in the educational system implies the ability of the institution to meet the expectations of the user of manpower (employers of labour) in relation to quality of skills acquired by their output (Ajayi & Akindutire, 2007). Oladipo, (2009) posited that quality of educational programme could be measured in terms of quality of input, quality of process, quality of context and quality of output. Therefore, ensuring quality in business education requires the right quantity and quality in everything that goes into the teaching/learning process or system as input and process. Until this objective is achieved, education and business education in particular may not be accorded its respect in the society. Ekumayo (2012) submitted that the non-inclusion of any of the nation's universities in the world best 1500 universities is unsavory and worse still, Nigeria ranked number 22 after South Africa, Egypt, Ghana, Kenya in the ranking of African universities. Presently, Nigeria ranked 2633<sup>rd</sup> position in the world. Similarly, Okebukola (2006) decried the quality of graduates produced in Nigerian tertiary institutions especially in the last four years and thumbed down the quality of those that would graduate in three years time. Due to the declining quality in recent years, hence, the accolade attached to Nigerian universities seems to be fading away fast. This is informed by the flood of criticisms that beclouded the quality of graduates produced. Parents now seek alternative for their children education in South African and

Ghanaian universities and even beyond. This ugly situation in Nigeria tends to negate the tenet of quality university education which is essentially an industry established to produce high quality workforce for national development.

It is against this background that Ugodulunwa and Mustapha (2005) and Adegbesan (2011) identified the following strategies for quality assurance in Nigeria educational system to salvage the deplorable situation. They are: moderation of examination, in-service education of teachers, proper funding of education, supervision and inspection, mentoring and monitoring, regular evaluation of the system among others. However, this study assessed the effectiveness of some of these strategies considered to be more important in business education programme in Nigerian universities. Since business educators form part of the key players in ensuring quality business education programme, it is therefore important to assess in the opinion of business educators the strategies for quality assurance in business education programme in universities in South-South Nigeria.

### **Problem Statement**

Recent development in the Nigerian educational system business education inclusive seems to indicate that all is not well as expected with quality assurance of the system. The scenario appears more worrisome when viewed against the background that Nigeria which once served as the hub of university education in the West African sub-region, is now in a deplorable state. It could be deduced from the present events and trends in the country (whereby many graduates cannot secure meaningful job or become self employed) that Nigerian education is not meeting its expectations in terms of the quality of teaching and services. Although Adegbesan (2011) and Ugodulunwa and Mustapha (2005) have identified some strategies for quality assurance, but on a practical ground, how effective are these strategies considered for quality assurance in business education programme in universities in South-South Nigeria? This was what informed this article.

With mind cast on these academic problems, the authors had set out to determine the strategies considered effective by business educators for quality assurance in business education programmes of universities in South-South Nigeria. Specifically, the authors determined using the opinions of business educators in universities;

1. the effectiveness of moderation of examination as a strategy for quality assurance in business education programme in universities in South-South Nigeria.
2. the effectiveness of in-service training given to career academics as a strategy for quality assurance in business education programme in universities in South-South Nigeria

### **Benefits**

The findings of this paper are expected to be beneficial to university business education students, business educators, university management and curriculum planners. The findings of this study can also be beneficial to business education students in universities in South-South Nigeria, because the outcome of this study has made it clear to students those areas in university business education programme that really require proper attention vis-à-vis their learning process. Business educators in universities in South-South Nigeria will also benefit from the findings of this study because it will identify those strategies that will ensure quality in business education programme which business educators are the major implementers. Similarly, curriculum planners will benefit from the findings of this study by getting to know the quality assurance strategies considered effective by business educators for improving the quality of business education graduates. This will aid business education curriculum planners in designing business education curriculum to suit the present innovations, trends and practices in global education.

Additionally, management of universities in South-South states of Nigeria will benefit from the finding of the study as it will reveal the constraints relative to the attainment of quality business education in Nigeria. It will also aid university management in knowing the roles they have to play in ensuring that the strategies considered effective are followed and adopted in their various universities in order to achieve qualitative business education programme in South-South Nigeria.

Finally, the findings of this study will be beneficial to business education students in universities in South-South Nigeria. This is because the outcome of this study will identify those areas in university business education programme that really requires proper attention vis-à-vis their learning process.

### **Literature**

#### **Strategies for Quality Assurance**

Quality assurance can be seen as all the attitudes, objectives, actions and procedures that through their existence and use, and together with quality control activities, to ensure appropriate academic standards are being maintained and enhanced in and by each programme. It therefore demands that appropriate framework and strategies for its realization be properly laid down and faithfully implemented. In the words of Obeka, Peter and Isaiah (2013), quality assurance in business education serves a couple of purposes;

- It serves as indispensable component of quality control strategy in business education

- It ensures and maintain high standard of business education at all levels
- It assists in monitoring and supervision of business education
- It determine the quality of the teacher input
- It determine the number of classrooms needed based on the average class size to ensure quality control in business education
- To determine the level of adequacy of the facilities available for quality control in business education
- To ensure that the financial resources available are prudently and judiciously utilized.

Adegbesan (2011) asserted that the strategies that would ensure quality assurance in business education are such like monitoring, evaluation, supervision, inspection and quality control. Quality control according to the author is one strategy that can be used in establishing quality assurance in the interior education system at all levels. For it to be successfully carried out, there is need to examine the qualification of teachers, teachers by gender, the adequacy of the curriculum, availability of equipment in the required number as well as the proper use of the process involved in the various skill to ensure that the finished products are of high standard. This connotes external moderation of examination results.

External moderation of examination result will help to ensure that institutions do not go below the required minimum standard. In the minimum Standard for NCCE, it is one of the basic requirements for quality assurance in business education. Odo (2010) noted that external moderation of NCE business education examination is a requirement and if this aspect is well implemented it will be very obvious and suitable for enhancing quality of graduates from the school system.

According to Chibuike (2013) internal and external moderation of examination should be also a major strategy of ensuring quality assurance in the academic system. This will keep academic staff assessment within the acceptable standard. Others similar to this are such criteria like internal and external peer review of learning materials, course evaluation, specifying how programme delivery will be managed including who is accountable for doing what.

The external examiner system gave legitimacy and credibility to examination results. In many institutions, external examiners are given substantial power over final marks, and lend credibility and legitimacy to final grade in the eyes of the students, the institution and public. Although the external examination system continued to provide a level of quality assurance well beyond the end of colonial era, it began to weaken in the 1990s (Ezeani & Eze, 2013); and this current weakening posture should be guarded against.

Since no educational system can grow above the level of its teachers, academic excellence begins with high quality faculty (quality teachers). Achieving quality output through curriculum implementation demands that teachers should update their knowledge to be resourceful. When teachers attend seminars, workshops and conferences, their efficiency and productivity is enhanced. In the same vein, when teachers have opportunity to run developmental programmes in relevant fields, they are empowered for effective delivery. To ensure effective delivery, it implies that teachers' quality which means the ability of a teacher to raise students' performance on incourse tests as well as in skills, and also work well with other teachers and school administrators for the purpose of raising the performance of the students must be assured (Leigh 2007). Based on these assertions, Amoor (2010) postulated that it is pertinent to say that teachers' quality entails effective and excellent teaching that improves students learning and satisfaction. The author maintained that it also ensures that learners possess adequate knowledge, skills and competencies that are appropriate for their areas of responsibility that would meet the needs of the labour force.

Even though teacher effectiveness and efficiency have been mentioned severally in meetings and discussions, its importance requires that more detailed discussion should be carried out on it. A teacher cannot teach what he /she do not know. Therefore, in the discourse of quality assurance in business education, it should start with the quality of the teachers who are supposed to implement the school programme. Much as the teacher is discussed, the quality of the students who are supposed to undergo the training will be affected. The current advancement in technology requires that teachers be given the opportunities to be trained and retrained regularly to make them to be abreast of the advancement in technology. With allegiance to the literature and objectives of this paper

### Research Questions

With allegiance to the literature and objectives of this paper, the authors posed these questions to guide the paper.

In the opinion of the business educators;

1. How effective is moderation of examination as a strategy for quality assurance in business education in universities in South-South Nigeria
2. How effective is in-service training given to career academics as a strategy for quality assurance in business education in South-South Nigeria.

In line with the objectives and questions posed to guide the paper, the authors formulated the following null



hypotheses that were tested at 0.05 level of significance

1. Male and female business educators do not differ significantly in their mean ratings on the effectiveness of moderation of examination as a strategy for quality assurance in business education.
2. Respondents (first degree, master and Ph.D holders) do not differ significantly in their mean ratings on the effectiveness of in-service training given to career academics as a strategy for quality assurance in business education in universities in South-South Nigeria.

### Methodology

*How effective is examination moderation as a strategy for quality assurance in business education in universities in South-South Nigeria?*

Answer to research question 1 involved data collected in respect of items 1 – 6. It is presented in Table 1.

**Table 1**

#### Respondents' Mean Rating on Moderation of External Result

(N = 48)

S/N	Means of Examination Moderation	Mean	SD	Remark
1	Moderation of examination questions	4.19	0.60	Highly Effective
2	Moderation of marking scheme	3.98	0.56	Highly Effective
3	Moderation of answer scripts	3.94	0.55	Highly Effective
4	Moderation of continuous assessment scores	3.85	0.53	Highly Effective
5	Moderation of examination result	3.67	0.51	Highly Effective
6	Moderation of students' research project	3.85	0.53	Highly Effective
<b>Grand Mean</b>		<b>3.91</b>		Highly Effective

The data in Table 1 indicate how business educators in universities in South-South Nigeria rated various means of examination moderation as a strategy for quality assurance in business education. It is obvious that business educators in universities in South-South Nigeria considered examination moderation as an effective strategy for quality assurance in business education in universities in South-South Nigeria as indicated in Table 1. All the items have mean ratings above 3.5 which indicate that business educators in universities in south-south Nigeria considered moderation of examination as an effective strategy for quality assurance in business education programme.

### Research Question 2

*How effective is in-service training given to career academics as a strategy for quality assurance in business education in South-South Nigeria?*

Data collected to provide answer to research questions 2 involve items 7 – 15, and are presented in Table 2.

**Table 2**

#### Respondents' Mean Rating on In-service Training for Career Academics

(N = 48)

S/N	In-service Training	Mean	SD	Remark
7	Conferences	3.88	0.54	Highly Effective
8	Seminars	4.00	0.56	Highly Effective
9	Workshops	3.85	0.53	Highly Effective
10	Summit	3.96	0.55	Highly Effective
11	Train-the-trainer programme	3.83	0.53	Highly Effective
12	Demonstration lesson	3.94	0.55	Highly Effective
13	Part-time/sandwich courses	4.15	0.59	Highly Effective
14	Intellectual debates	3.98	0.56	Highly Effective
15	Academic events (inaugural lecture)	3.10	0.54	Highly Effective
<b>Grand Mean</b>		<b>3.94</b>		Highly Effective

The data in Table 2 indicate how business educators in university in South-South Nigeria considered in-service training for career academics effective as a strategy for quality assurance in business education programme in universities in South-South Nigeria. The result revealed that business educators in universities in South-South Nigeria considered provision of various forms of in-service training for career academics as an effective strategy for quality assurance in business education programme in universities in South-South Nigeria. All the items listed on this section received mean rating greater than 3.5 which indicated that in the opinion of business educators, provision of in-service education and training for career academics is an effective strategy for quality assurance in business education programme. The close range of standard deviation of the responses showed that the respondents were not far apart in their response to this research question. It can therefore be adjudged that providing in-service education and training for career academics is an effective strategy for quality assurance in business education programme in universities in South-South Nigeria.



### Hypothesis 1

*Male and female business educators do not differ significantly in their mean ratings on the effectiveness of moderation of examination as a strategy for quality assurance in business education.*

The test analysis for hypothesis 1 is presented in Table 3

**Table 3**

#### Summary of z-test Analysis of Hypothesis 1

Gender	N	X	S	z-cal	$\alpha$	df	z-crit	Remark
Male	29	4.22	0.86					
Female	19	3.65	1.79	1.36	0.05	46	2.02	Accepted

As shown in Table 3, male and female business educators rated the use of moderation of examination as a means of ensuring quality assurance in business education with mean scores of 4.22 and 3.65 respectively. The z-calculated value of 1.36 is greater than the z-tabulated value of 2.02 at 46.0 degree of freedom and 0.05 level of significance and this suggests that there is no significant difference between the mean ratings of male and female business educators in universities in South-South Nigeria with respect to the extent to which the use of moderation of examination ensures quality in business education programme. This therefore means that the null hypothesis is accepted.

### Hypothesis 2 (First degree, Master and Ph.D holders)

*Respondents do not differ significantly in their mean ratings on the effectiveness of in-service training given to career academics as a strategy for quality assurance in business education in universities in South-South Nigeria as a result of educational attainment (First degree, Master and Ph.D).*

The test analysis for hypothesis 2 is presented in Table 4

**Table 4**

#### Summary of Analysis of Variance for Hypothesis 2

Qualification	SS	Df	MS	F-ratio	F-tab	$\alpha$	Remark
Between Group	4.99	2	2.49				
Within Group	6.9	45	0.49	5.41	3.68	0.05	Accepted
Total	6.29	47					

The result in Table 4 indicates the summary of the ANOVA statistical analysis of the business educators who possesses B.Sc. (Ed), M.Sc./M.ED and PhD holders on the effectiveness of in-service training for career academics as a strategy for quality assurance in business education. The table shows the following ANOVA statistical values: F-cal 5.41, F-crit 3.68. As the F-calculated is less than F-tab values, the hypothesis of no significant difference among business educators with varying qualification was not rejected. This indicates that there was no significant difference among the mean response of business educators with varying qualifications on the extent to which provision of in-service training for career academics ensure quality in business education programme in South-South Nigeria.

### Conclusion

Nigeria in recent times has been witnessing a significant proliferation of tertiary institutions. However, it is saddening to note that many of the indices that can guarantee qualitative university business education are not taken into cognizance in the country's quest to make university education accessible to all; the quality of education is deteriorating as the days keep unfolding. However, to salvage this deplorable situation in Nigeria educational system, strategies have been assessed and considered for quality assurance. Such strategies as assessed by this study are moderation of examination, in-service education and training for career academics. Therefore, to enthrone and maintain quality and sustainable standards in business education, these strategies must be harnessed and implemented properly.

### Recommendations

Based on the findings of this study and to ensure quality in business education, the following recommendations were made:

1. There should be moderation of the entire examination system by the department, faculty, senate and of course, an external moderator in business education. Moderated materials should also be checked-off by heads of departments before administration.
2. Institution should regularly organize in-service training and retraining of staff in business education to improve and equip them with new ideas, knowledge and skills. Apart from the retraining programmes organized by various institutions, individual lecturers should make spirited efforts to acquaint and upgrade

themselves with current global trends in the education industry.

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# Job Satisfaction and Productivity of the Factory Offices of the Tea Plantation Sector in Sri Lanka

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## Abstract

Ceylon Tea which is a world renowned brand name celebrates the 150<sup>th</sup> year since the planting of the first tree by a British national in the Loolekandura Estate in the Central Hills of the country. This research Paper is to analyze the Factory Employees' Job Satisfaction and Productivity of the Sri Lankan Plantation Sector in Sri Lanka. Job Satisfaction and Productivity are widely spoken topics of the many other fields of the international forums and journals. Four hundred questionnaires were distributed among the Factory Officers of the Tea Estates. The response to four hundred questionnaires distributed among the factory employees, 370 were returned and the response rate was 92.5 percent. The data was analyzed by using descriptive analysis and structural equation methods. The findings show that job satisfaction has a significant positive impact on productivity.

## Introduction

Sri Lankan Tea Plantations are going through a period of upheavals since independence. Most of the difficulties of Sri Lankan Plantations could be attributed to the change of government, unwise political decisions of the opportunistic politicians, disturbances of the world markets, disputes among various countries, spreading wars in countries who are the main buyers of Ceylon tea, unkindly weather patterns and serious price fluctuations in the financial markets here and abroad.

Productivity can be enhanced by reducing unit cost and increasing output. Another name for reducing unit cost of production is productivity. There are several factors which help to reduce unit cost. Above mentioned factors are: controlling wages, unionism and current wages are below market rate, plucking average is less, ineffective management decisions on maintenance, fertilizer, plant types and ageing plants, deficiency in labour productivity, land productivity and plucking productivity, soil erosion leading to infertile soil, pests and diseases, weak strategies and structures, lack of managerial and technical personnel and unmatched plant types and decreasing yield/ha. The high labour cost is mainly due to work norms such as plucking, pruning, draining, fertilizer use and planting being below the worker capacity. By remedying the grievances such as encouraging people to live in the estate plantation sector, improve the health and other basic infrastructure facilities, entertaining the workers who are outside the plantation, restructuring the current wage scales, taking measures to discourage turnover of the employees and taking measures to stop anemia (worm responsible for this sickness enters through the sole of the foot) by wearing slippers could be some of the important measures needed to be introduced to increase the productivity of the tea sector (Perera, M., 2017; Verite Research, 2016). Since the time of Colonial era, the hierarchical structure of the plantation sector is divided into five levels and they are namely the entrepreneur, management, staff (clerical and white color), sub staff (supervisors, drivers, mechanics, creche attendants) and labourers. The factory managers about whom this research is carried out belongs to the sub staff category (Perera, M., 2017).

Some parts of the world, there are enough and more articles have been written on the variables of Job Satisfaction and Productivity. The purpose of this paper is to revisit those research in the context of the Tea Plantation in Sri Lanka.

## Literature Review

### Job Satisfaction

According to Vroom (1964) Job satisfaction is an emotional orientation and performing a task at the working place owned by the workers towards the role they are performing at the work place. Job Satisfaction compels the workers induced by motivation and encouragement for better performance. Hoppok & Spielgler (1938) defines job satisfaction as an integrated dimension of psychological, physiological and environmental situations that compels the workers to accept that they are happy with their given task. Clark (1997) argues that "if employees are not satisfied with the task assigned to them, they are not certain about factors such as their rights, working conditions are unsafe, co-workers are not cooperative, supervisor is not giving them due respect and they are not considered in the decision-making process; resulting them to feel separate from the organization". The workers with less morale make less effort to improve the situation as a result in order to rectify the situation their morale needs to be maintained high. Job Satisfaction as the integrated set of psychological, physiological and

environmental conditions that compel the employees that they are alright and joyful about their jobs (Hoppok & Spielgler: 1938).

### **Productivity**

Prokopenko (1992) quoted in Dugguh (2014) says that productivity has been defined by the International Labor Organization (ILO) as “the effective and efficient use of all resources, capital, labor, material, information and time.” The reasons which hinder the productivity are low productivity of labor which is measured through some of the indices such as poor quality of local products, which is becoming a stumbling block for exportation, thereby difficulty in competing with other competitors in the market, unfavorable trade deficit in the balance, hindrances lays on the movement of the laborers and shortage and surplus of employees, use of old technology occasioned by low labor mobility or existence of surpluses and deficits of employees, use of out dated technology, inadequate access to basic needs and necessities of life, generally poor physical and mental health conditions of the populace, poor human resource management and weak industrial relations. Therefore, enhancing productivity is a must in the national development schemes.

Wazed and Ahmed (2008) quoted in Gupta & Dey (2010) say that “basic content of definitions of productivity are the same but within similar definitions there are three broad categorizations namely 1. The technological concept: the relationship between ratios of output to the inputs used in its productivity; 2. The engineering concept; the relationship between the actual and the potential output of a process; and 3. The economist concept: the efficiency of resource allocation.”

### **Job Satisfaction and Productivity**

Some of the most popular measures in the field, e.g. the Job Descriptive Index (Smith et al., 1969), the Minnesota Satisfaction Questionnaire (Weiss et al., 1967), the Job Satisfaction Survey (Spector, 1985) have adopted this perspective but fairly a good number of job satisfaction studies have found using MSQ as a basis for this research. Weiss et al further says that the Minnesota Satisfaction Questionnaire was one of the outputs from the “Work Adjustment Project” at the University of Minnesota and the underlying theory is based on the assumption that work fit is dependent on the correspondence between the individual skills and the reinforcements that exist in the work environment (Weiss et al., 1967). This is suitable for individuals of all school levels that can be administrated separately or individually but this is a self-reporting measure. Edward, *et al.* 2008 quoted in Perera, G, D, N (2014) presents the several questionnaire models presents to us and they are namely - Minnesota Satisfaction Questionnaire (MSQ) developed by Weiss, *et al.* in 1967, Job Descriptive Index (JDI) developed by Smith *et al.* 1969, Job Characteristics Model (JCM) explained by Hackman and Oldham, 1976 (Edward, *et al.* 2008).

Bockerman, P & Illmakunas (2014) on the basis of results of their research on job satisfaction of the European Community Household Panel (ECHP) on establishment productivity from longitudinal register data that the effect of an increase in the establishment’s average amount of employee job satisfaction is positive.

Halkos, G.M. & Bousinakis, D (2012) reveals that during the neo-classical period (1920-1950) believed that employee satisfaction mainly influences productivity. It was found out that cause-effect relationship existed between satisfaction and productivity. As a result of it, various institutions find out various means in order to increase productivity. Nouri, B. & Wael, J (2011) found out through their research that Job satisfaction leads to employee productivity.

### **Research Design**

This study is to examine the impact of job satisfaction on the productivity of the Tea Plantation in Sri Lanka. While this study is descriptive in nature the unit of analysis is factory officers of the plantation sector. As factory officers are eligible to read and write self-administered questionnaire was served to them and they are the very unit of study. According to Roscoe (1975) sample larger than 30 and less than 500 are appropriate for most researches. Four hundred questionnaires were distributed among the employees and 370 were returned. Disproportionate random sampling method was implemented. Outliers were checked and with the help of whisker diagram, box plot, stem and leaf plot. As a result of it, it was found that 8 outliers and these outliers were removed and the number of questionnaires subjected to analytical part was 362.

### **Operationalization of Variables.**

#### **Job Satisfaction (JS)**

Weiss, *et al.* (1967) give 22 items of construct on job satisfaction (JS). There are four constructs for JS and they are namely the work itself (WI), pay (PA), supervision (SU) and working condition (WC). Under each construct several sub constructs could be seen. There are five sub constructs under work itself and the constructs such as pay, supervision, and working condition has four sub constructs for each category. Each sub construct under main construct was measured using five-point Likert scale assigning values number one to five. Number

one to five stands for strongly disagree to strongly agree respectively.

### Productivity (PR)

Dey, S. K and Gupta, R (2012) has introduced several constructs for PR and they are namely 1) capital investments in production, 2) capital investments in technology, 3) capital investments in equipment, 4) capital investments in facilities, 5) economies of scale, 6) workforce knowledge and skill resulting from training and experience, 7) technological changes, 8) work methods, 9) procedures, 10) systems, 11) quality of products, 12) quality of processes, 13) quality of management, 14) legislative and regulatory environment, 15) general levels of education, 16) social environment and 17) geographic factors.” The same seven dimensions have been used by Nath, A. K &, Dutta, A.K ;2015, Dey, S.K & Gupta, R ;2012, to examine and analyze Productivity. The perception of the productivity is investigated by referring to the questionnaire model of Gupta, R and Dey, S.K (2010) and Yogarathnam (2011).

For this study, the main construct PR was studied by three domains such as Labour Input – Wage (LIW) consisting first 7 sub constructs from the above constructs (1 to 7), Labour Input-Capital (LIC) consisting 6 constructs from above constructs (8 to 13) and Material Input (MI) construct consisting four sub constructs from the above (14 to 17) were being put. Five-point Likert scale has been used and one stands for strongly disagree and five stands for strongly agree.

### Assessment of Normality

Chinna, (2013) expresses that Skewness and kurtosis were used to check the normality of the data. Skewness should not exceed more than three in one hand and on the other hand kurtosis values should not exceed ten at all (Kline, 2005). Univariate normality of the data is existing as the skewness and kurtosis values of this mini research remain within the ambit of approved amounts as suggested by studies (Table 1).

Table 1: Assessment of normality

Variable	Minimum	Maximum	Skewness	Std. Error	Kurtosis	Std. Error
JS	1	5	-1.250	0.128	0.724	0.256
PR	1	5	-0.814	0.128	-0.190	0.256

### Validation of Measurement Properties

The analysis of moment of structures (AMOS) as a confirmatory factor analysis in structural equation modeling (SEM) to evaluate the job satisfaction and productivity. The Cronbach’s alpha to remain at least 0.70 and inter item correlation needs to be at the level of more than 0.30 give the stability for the items in the construct (Chinna, 2013; De Vellis, 2003).

Table 2: Reliability test for first order factors

Construct	# of items before dropped	# of items after dropped	Cronbatch Alpha after dropped	KMO after dropped
Work Itself	5	4	0.894	0.818
Pay	4	4	0.896	0.846
Supervision	4	4	0.894	0.805
Working Condition	4	4	0.896	0.822
Labour Input – Wage	7	5	0.899	0.876
Labour Input – Capital	6	5	0.888	0.878
Material Input	4	4	0.853	0.821

After developing the reliability test, the CFA is done for job satisfaction and productivity factors. After dropping, 1 item each from work itself and labour input-capital and 2 items from labour-input wage. The AMOS programme used only 30 items. The chi-square divided by degree of freedom ( $\chi^2/df$ ), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and Root Mean Squared Approximation of Error (RMSEA) used for to check the model fit. These results also demonstrate that structural model is the best of the data (Hair, et al.1998; Kline, 2005, Byrne, B.M., ;2016, Chinna; 2017). The initial measurement model for the job satisfaction and productivity was developed and shown in figure 1.



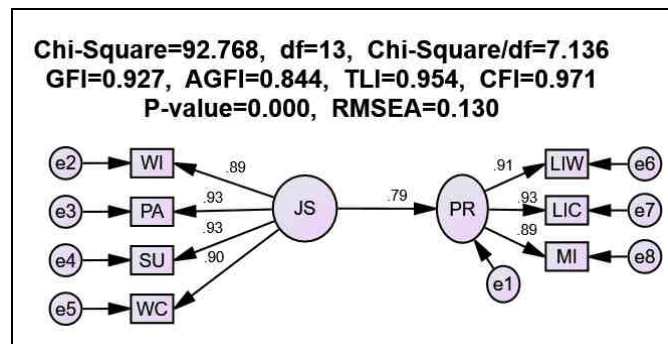


Figure 1: Initial measurement model for job satisfaction and productivity

According to the initial measurement of the JS and PR (Figure 1), factor loading of all items were above the minimum cutoff point 0.5; hence there was no need to drop any item of the construct. Examination of all the fit indices for this construct revealed that the CFA model of the construct (Figure 1) not satisfying the all of fit conditions: Chi-square/df = 7.136 which was greater than the cutoff value 3, GFI=0.927; AGFI=0.944; CFI=0.971; TLI=0.954; and RMSEA=0.130 which was also greater than cutoff value 0.08 (Hair, *et al.*2006).

Modification indices showed that the final model (Figure 2) can be improved by allowing correlation of the items WI and WC in JS as well as LIW and LIC in PR. Then the final model of the JS and PR aligned with the data evidenced by the chi-square/df=1.669, GFI=0.986, AGFI=0.963, CFI=0.997 and TLI=0.995 were above the desired level of 0.9, whilst RMSEA=0.043 was below the required level of 0.08. Further, factor loading of all the items were above 0.5 indicating adequate individual item reliability.

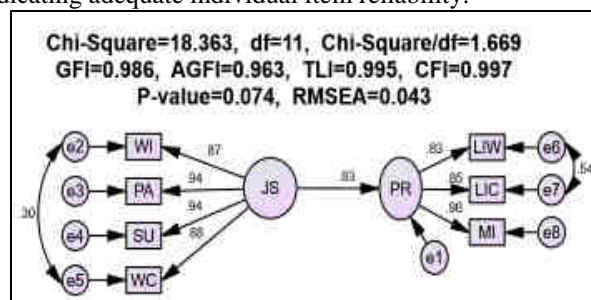


Figure 2: Final measurement model for JS and PR

From the final model all relationships were statistically significant. The regression weights for the final structural model presented in Table 3.

Fit indices in Table 3 demonstrate good fitness of both variables, proving that the selected indicators are good representatives for each dimensions of job satisfaction and productivity which indicate that all scales exhibit validity which is good.

Table 3: Regression weights and reliabilities of the final structural model

Path	Unstd. Estimate	S.E	C.R	P	Std. Estimate	AVE	CR
PR<--- JS	0.779	0.050	15.710	***	0.825		
WC<--- JS	1.000				0.880		
SU<--- JS	1.069	0.038	27.880	***	0.940		
PA<--- JS	1.072	0.038	27.972	***	0.941		
WI<--- JS	0.989	0.035	28.189	***	0.869	0.833	0.952
LIW<--- PR	1.000				0.826		
LIC<--- PR	1.017	0.035	29.118	***	0.847		
MI<--- PR	1.128	0.053	21.255	***	0.957	0.823	0.933

\*\*\* P < 0.001

The verification of the multivariate normality for the items of job satisfaction and productivity were done. The Assumption of multivariate normality is not met because the critical ratio value for multivariate kurtosis = 16.273 which was more than 5. As a result of testing on 1000 bootstrap resample the Bollen-stine p value was 0.226, which has gone beyond 0.05. Therefore, the model is admitted as correct. The standardized residual covariances have less than two in absolute value and the model is correct (Kline;2005). By analyzing the Mahalanobis distance p1 is more than 0.001, the observation is not an outlier and the highest distance is 46.207.

The Composite Reliability (CR) was 0.6 and Average Variance Extracted (AVE) was 0.5 for the final structural model items (Table 3). As Hair, *et al.* (2010), Chinna (2013) convergent validity exists when the AVE value is greater than 0.5 and CR value is greater than AVE.

Further Table 4, narrates according to Fornell and Larcker (1981); Chinna, (2013) the AVE is much more

than the all corresponding construct correlations ( $R^2$ ), which is a clear proof and an evidence of discriminant validity of the construct.

Table 4: Discriminant validity

	JS	PR
JS	0.833*	
PR	0.681**	0.823*

\* AVE, \*\*  $R^2$

### Conclusion and Recommendations

Overall results of this study prove that job satisfaction is positively and significantly influence productivity. Therefore, results of the objective showed that job satisfaction is positively and significantly influence productivity. Therefore, results of this study show that when the factory officers are satisfied, they will improve the productivity of the Tea sector in Sri Lanka. Lower job satisfaction causes secretly deceleration of the works, job success and job productivity and increases in the workforce turnover (Iverson and Deery, 2007; Lum, 2006), occupational accidents and complaints. Job satisfaction can be described as one's feelings or state of mind regarding the nature of the work and Job satisfaction can be influenced by a variety of factors such as the quality of the academics' relationships with their supervisors, the quality of the physical environment in which they work and the degree of fulfillment in their work (Lambert, Pasupuleti, Cluse-Tolar and Jennings, 2008). Job satisfaction remains a key factor in productivity (Oshagbemi, 2000). Taking all these factors into consideration job satisfaction is very important in an organization because if employees are not satisfied, their work performance, productivity, commitment as well as the interpersonal relationships among the management and their subordinates tend to reduce (Fajana, 1996).

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# **The Mediating Effect of Strategy Implementation on the Relationship Between Corporate Governance and Performance of Firms Listed on the Nairobi Securities Exchange**

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## **Abstract**

The purpose of the study was to establish the effect of strategy implementation on the relationship between corporate governance and performance of firms listed on the Nairobi Securities Exchange (NSE). The study developed a corporate governance index as a proxy for corporate governance based on the seven provisions of the recently revised Capital Markets Authority (CMA) draft code of corporate governance practices for public listed companies in Kenya, namely; board operations and control, rights of shareholders, stakeholder relations, ethics and social responsibilities, accountability, risk management and internal audit, transparency and disclosure and supervision and enforcement. The survey questionnaire was the main tool of data collection and was distributed to 56 CEOs and corporation secretaries. The response rate was 87.5%. The study found that strategy implementation mediates the relationship between corporate governance and non-financial performance of firms listed on the Nairobi Securities Exchange. The results have diverse implications for policy, practice and research.

**Keywords:** Corporate Governance, Mediation, CGI\_ Score, Strategy Implementation, Firm Performance

## **1. Introduction**

While the concept of corporate governance and its effect on performance has received considerable attention and is a staple of discussions in corporate board rooms, academic meetings and policy circles, different scholars have conceptualized corporate governance and assessed the constructs differently resulting to different measurements and firm performance implications. In addition, research findings have been contradictory and mixed. Equally, limited literature is available on other variables that affect the relationship between corporate governance and performance. The specific relationships between strategy implementation and firm performance have not been delineated explicitly. These inconsistent findings highlight the need to identify the nature of this relationship more so in the Kenyan context.

The reality of strategy resides in its strategic actions (implementation), rather than its strategic statements. Mintzberg (1985) defines strategy implementation as the manner in which an organization should develop, utilize and amalgamate organizational structure, control systems and culture to follow strategies that lead to competitive advantage and better performance. The best-formulated strategies may fail to produce superior performance if they are not well implemented. Although formulating a good strategy is a difficult task, Thompson and Strickland (2003) have stressed that the strategy implementing task is the most complicated and time consuming part of strategic management.

## **2. Literature Review**

### **2.1 Theoretical Framework**

The resource dependence theory has been used by researchers as both a compliment as well as a contrast to agency theory (Davis, Schoorman & Donaldson, 1997). It suggests that the institution of internal corporate governance such as the board is not only necessary for ensuring that the managers are effectively monitored but also serve as an essential link between the firm and the critical resources that it needs to maximize its performance. Board and non-executive directors can offer essential resources including expertise both in the form of specific skills as well as advice and counsel in relation to strategy formulation and implementation (Haniffa & Hudaib, 2006).

Directors bring reputation, critical business contacts facilitate access to business information and offer an essential link to a firm's external environment and significant stakeholders including creditors, suppliers, customers and competitors (Haniffa & Hudaib, 2006). These relational resources can be both practical and

symbolic. The association of particular individuals with a company has the potential to enhance the reputation or perceived legitimacy of an executive team.

## 2.2 Corporate Governance

Corporate governance is concerned with the systems used to balance the rights and obligations of the owners and those of non-owner managers. Cadbury (1999) for example defines corporate governance as the system by which organizations are directed and controlled and mainly concentrates on how key internal governance mechanisms interact to maximize shareholder value. Solomon and Solomon (2004) define corporate governance as a system of checks and balances which ensures that companies discharge their accountabilities to all their stakeholders.

Corporate governance gained prominence in the 1980s because this period was characterized by stock market crashes in different parts of the world and failure of some corporations due to poor governance practices. Prevention of corporate failure was not the only reason that led to adoption of the corporate governance ideals. On a positive note, there was a growing acknowledgement that improved corporate governance was crucial for the growth and development of the whole economy of a country (Clarke, 2004; Department of Treasury, 1997), and the realization that some companies had revenues that were several times larger than the GDP of many middle income countries hence the role these companies played in the global economic arena (International Monetary Fund, 2013). Other studies established strong links between the performance of corporations and the governance practices of their boards (Gregg, 2001; Hilmer, 1998; Kiel & Nicholson, 2002; OECD, 1998). Moreover, a study carried out in the United States by Gompers, Ishii and Metrick (2003) found a strong correlation between good corporate governance practices and superior shareholder performance. The study also revealed that two-thirds of investors were prepared to pay more for shares of companies that had good corporate governance practices.

The studies are in agreement that corporate governance has an effect on strategy implementation which in turn leads to good firm performance. The specific relationship between strategy implementation and firm performance has not been delineated explicitly.

## 2.3 Strategy Implementation

Minzberg (1985) defines strategy implementation as the manner in which an organization should develop, utilize and amalgamate organizational structure, control systems and culture to follow strategies that lead to competitive advantage and better performance. The best-formulated strategies may fail to produce superior performance if they are not well implemented. Although formulating a good strategy is a difficult task, Thompson and Strickland (2003) have stressed that the strategy implementing task is the most complicated and time consuming part of strategic management.

The process of strategy implementation involves two major steps namely, operationalization of strategy and institutionalization (Pearce & Robinson, 1996). Operationalization of strategy involves breaking long-term corporate objectives to operational short-term objectives, strategies, action plans, policies to guide decision making, assigning responsibility and providing human resources and a budget. Institutionalization permeates daily decisions and actions in a manner consistent with long term strategic success and matching strategy with organizational structure and culture, selecting effective leadership, communicating strategic intentions, and designing effective reward systems (Sterling, 2003).

There were no systematic studies that had been undertaken on mediating effect of strategy implementation on relationship between corporate governance and performance. Researchers in this field have recognized the lack of empirical research linking the implementation process to performance (Andrews et al., 2011). This research therefore relied on studies that established some linkages between corporate governance and performance, corporate governance and strategy implementation and corporate governance and performance. Jooste and Fourie (2009) and Jalali (2012) emphasized the connection between corporate governance and strategy implementation.

## 2.4 Firm Performance

Firm performance has been the debate of practitioners and academicians for years, but it is also the ultimate dependent variable of interest for scholars of management who seek to identify variables that produce variation in performance. Firm performance is conceptualized and measured differently by different authors and draws different expectations from employees, shareholders, investors and the general public (Kaplan & Norton, 2005). Past research has used many variables to measure organizational performance and included profitability, gross profit, return on assets (ROA), return on investment (ROI), return on equity (ROE), revenue growth, stock price, liquidity and operational efficiency.

Doyle (1994) argued that profitability was the most used measure of performance by most business organizations while Schendel (1991) supported use of ROA, ROE, earnings per share (EPS) and profit margin as the most common measures. Hoskisson, Johnson & Mossel. (1994) opine that financial measures are inadequate

for decision making and need to be supported by other measures such as customer satisfaction and operational efficiency.

## 2.5 Firms Listed in the Nairobi Securities Exchange

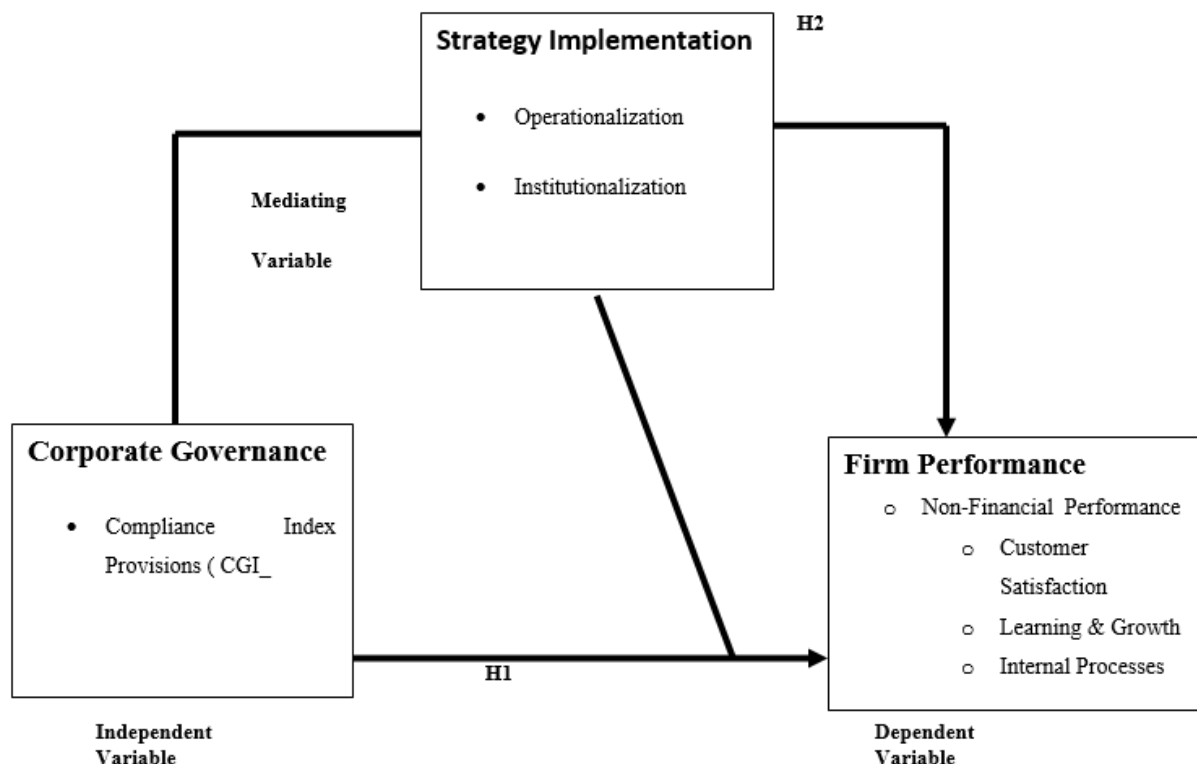
Firms that are listed on the Nairobi Securities Exchange (NSE) play a major role in promoting a culture of thrift and savings (Capital Markets Authority, 2012). Firms generally tend to improve their management standards and efficiency in order to satisfy the demands of their diverse shareholders and the more stringent rules for public corporations imposed by public stock exchanges and the government thereby improving the quality of corporate governance. Ownership by the public is important for NSE as a show of good governance and transparency.

The Government of Kenya aims to achieve and sustain an economic growth rate of 10% in order to realize the Kenya vision 2030 goals (Government of Kenya, 2007). This has made the Government to strengthen the NSE so that it can enhance its role as a robust securities market. The NSE on its part expects the listed firms to enhance their efficiency and competitiveness. Adherence to good corporate governance is one tool at its disposal (Capital Markets Authority, 2014). The listed firms have to adhere to the revised code of corporate governance practices for public companies in Kenya. The revised code is more stringent than the previous one. The previous one required companies to conform or explain reasons why they can not conform, while the revised draft code requires companies to conform or explain steps that will be taken to conform. It should be noted that firms listed on the NSE compete for the same investors with other securities exchanges worldwide.

## 3. Conceptual Framework

The conceptual model Figure 1 presents a schematic picture of the researchers presumed perceptions of existing relationship among the various variables of the study. The schematic diagram captures the linkage in the literature. The model suggests relationship between corporate governance – as independent variable, strategy implementation as mediating variable and firm performance as the dependent variable.

**Figure 1: Conceptual model showing the relationship between Corporate Governance, Strategy Implementation and Firm Performance.**



As shown in figure 1 above, corporate governance has influence on firm performance. Its influence is however mediated by strategy implementation. The extent of success of implementing strategy which influences performance is defined by the extent to which leadership encourages contribution to corporate strategies by departments through development of short term objectives and provision of resources and the extent to which the leadership provides a culture that supports strategy implementation through staff placement and linking rewards to objectives. The study was undertaken to assess whether the relationship between corporate governance and

firm performance was direct or indirect through strategy implementation.

### **Hypothesis**

The following hypothesis was derived from the conceptual model above.

**H2: Strategy implementation mediates the relationship between corporate governance and non- financial performance.**

### **4. Methodology**

The research design adopted for this study was a cross sectional descriptive survey of all firms listed on the Nairobi Securities Exchange. The descriptive design was the most appropriate for the study because it allowed the researcher to establish level of compliance of corporate by different firms, and make specific predictions on how much change was caused by predictor variable and whether the effect was significant. This was achieved through a simple multiple regression analysis. Cross sectional design was preferred because the data was collected at one point in time across all 56 NSE listed firms. Each respondent, either the CEO or corporation secretary filed the questionnaire once during the entire data collection period.

Instrument validation was achieved in several ways. A pre test was done by administering the instrument to 10 conveniently selected corporation secretaries. The 10 corporation secretaries were requested to evaluate the relevance, meaning and clarity. On the basis of their response, the instrument was adjusted appropriately. Content validity involved the examination of the content to determine whether it covered a representative sample of the measured items. Validity according to Kerlinger (2002) can be assessed by using expert opinion and informed judgment.

Cronbach Alpha was calculated to test reliability. The Cronbach's Alpha coefficient was used to measure the internal consistency of the measurement tool, which is commonly used in social sciences to establish the internal consistency of items or factors within and among variables of study. Nunnally (1967) argues that an Alpha coefficient of 0.7 and above is an acceptable measure. The Cronbach Alpha coefficients for corporate governance, strategy implementation and performance in the conceptual framework were reliable registering scores of 0.835, 0.924 and 0.908 respectively. This indicates that the data collected using the data collection instrument was reliable for analysis. The tests were conducted using SPSS.

### **5. Results**

The objective of the study was to establish whether strategy implementation mediates the relationship between corporate governance and firm performance of firms listed on the Nairobi Securities Exchange. Based on this objective data was collected using twenty four (24) corporate governance items measuring corporate governance provisions contained in the Capital Markets Authority revised code of corporate governance practices for public listed companies in Kenya, ten (10) items measuring strategy implementation and fourteen (14) measuring firm performance. The items in the corporate governance scale consisted of statement that measured the extent to which organizations complied with revised code of corporate governance practices for public listed companies in Kenya in the seven provisions that comprised the corporate governance index.

The respondents rated the extent to which itemized corporate governance provisions were complied with on a scale of 1 to 5 where 1 represented "Strongly Disagree" and 5 represented "Strongly Agree". Performance consisted of statements that represented the extent which they applied to the firm on a scale of 1 to 5, where 1 represented, "very low" and 5 "very high". The hypothesis focused on establishing whether the relationship between corporate governance and firm performance is direct or through strategy implementation.

The hypothesis was tested using path analysis proposed by Baron and Kenny (1986). The paths comprise three simple and one multiple regression models. The four paths, referred to as steps are outlined below;

Step one: non-financial performance was regressed on corporate governance.

Step two: Strategy implementation was regressed on corporate governance.

Step three: non-financial performance was regressed on strategy implementation.

Step four: non-financial performance was regressed on both corporate governance and strategy implementation.

The results in the first three steps are significant and in step four, corporate governance is not significant while strategy implementation is significant. Partial mediation is inferred when all or some of the first three steps are significant or when, in step four, the effect of corporate governance and strategy implementation on performance is not significant but the value of the effect of strategy implementation on performance is above zero.

The results from the tests at the four steps are presented in tables 1, 2 and 3 below.

**Table. 1 Regression Results for the Mediation of Strategy Implementation in the Relationship Between Corporate Governance and Non-financial Performance**

Step	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard Error of the Estimate	R <sup>2</sup> Change
Step 1	0.586	0.343	0.329	0.5431	-
Step 2	0.578	0.334	0.320	0.48667	-0.009
Step 3	0.814	0.663	0.656	0.39386	0.329
Step 4	0.826	0.683	0.669	0.38646	0.02

a) Predictors: Corporate Governance

b) Predictor: Corporate Governance

c) Predictors: Strategy Implementation

d) Predictors: Corporate Governance, Strategy Implementation

Dependent Variable: Firm performance (non-financial performance)

Step 1 shows the results of simple linear regression analysis when only corporate governance is entered in the equation. These results indicate that corporate governance explained 34.3 % of the variance in non-financial performance ( $R^2=0.343$ ). In step 2, corporate governance becomes the dependent variable, and strategy implementation the predictor variable. The results indicate that corporate governance explained 33.4 % of the variance in strategy implementation ( $R^2 =0.334$ ). The  $R^2$  changes from 0.343 in step 1 to 0.334 in step 2 ( $R^2$  change= -0.009). In step 3, the relationship between the mediator and dependent variable is tested and the results show that strategy implementation accounted for 66.3% of the variance in non-financial performance ( $R^2=0.663$ ). There was a change in  $R^2$  from 0.334 to 0.663 in step 3 ( $R^2$  change=0.329).

In step 4, multiple regression analysis was performed to assess whether the relationship between corporate governance and firm performance is direct or indirect through strategy implementation. Strategy implementation added significantly to non-financial performance as the variation changed from 0.663 in step 3 to 0.683 in step 4 ( $R^2$  change=0.002).

Further, a comparison between step 1 when only the predictor variable and the criterion variable were entered in the analysis and the step 4 when the mediating variable was controlled, indicate that the variance in non-financial performance explained by corporate governance changed from 34.3% in step 1 to 68.3% in step 4 that is when strategy implementation was introduced ( $R^2$  change= 0.34). These results indicate that 34% of the variance in non-financial performance was explained by strategy implementation. The results were further analyzed using ANOVA to confirm the statistical significance of the overall model. The results of analysis of variance for the four models are presented in table 2

**Table 2 Results of Analysis of Variance (ANOVA) for the Mediating Effect of Strategy Implementation in the Relationship Between Corporate Governance and Non-Financial Performance**

Step		Sum of Squares	df	Mean Square	F	Sig	F Change
Step 1	Regression	7.347	1	7.347	24.528	.000a	
	Residual	14.079	47	0.300			
	Total	21.426	48				
Step 2	Regression	5.468	1	5.464	23.069	.000b	-1.459
	Residual	10.895	46	0.237			
	Total	16.359	47				
Step 3	Regression	14.043	1	14.043	90.526	.000 <sup>c</sup>	67.457
	Residual	7.136	46	0.155			
	Total	21.179	47				
Step 4	Regression	14.458	2	7.229	48.402	.000 <sup>d</sup>	-42.124
	Residual	6.7721	45	0.149			
	Total	21.179	47				

a) Predictors: Corporate Governance

b) Predictor: Corporate Governance

c) Predictors: Strategy Implementation

d) Predictors: Strategy Implementation, Corporate Governance

Dependent Variable: Firm Performance (non-financial)

From the results in Table 2, step 1 shows that with only one predictor variable, corporate governance had a significant contribution to non-financial performance ( $F=24.528$ ,  $p<0.05$ ). In step 2 which involves mediator (strategy implementation), the results show that corporate governance had a significant contribution to change in non- financial performance ( $F=23.067$ ,  $p<0.05$ ). In step 3, strategy implementation had a significant contribution to change in non- financial performance ( $F=90.526$ ,  $p<0.05$ ). There was an observed change in F from 23.069 in step 2 to 90.526 in step 3 ( $F$  change=67.457).

Finally in step 4, when controlling for strategy implementation corporate, F changes from 90.526 in step 3



to 48.402 in step 4, there is a meaningful reduction in F (F change= -42.124) but the overall model was statistically significant ( $F=48.402$ ,  $p<0.05$ ).

The next criteria involve checking for regression coefficient and the t-statistics. The results of regression coefficients of the four models are presented in Table 3.

**Table 3: Results of Regression Coefficients for the Mediating Effect of Strategy Implementation in the Relationship between Corporate Governance and Non-Financial Performance**

Model		Unstandardized Coefficient		Standardized Coefficient Beta	t	Sig	Collinearity Statistics	
		B	Std Error				Tolerance	VIF
Step 1	Constant	1.170	.555		2.109	.040	1.00	1.00
	Corporate Governance	.670	.135	.586	4.953	.000	1.00	1.00
Step 2	Constant	1.874	.462		4.053	.000	1.00	1.00
	Corporate Governance	.518	.103	.578	4.803	.000	1.00	1.00
Step 3	Constant	.384	.374		1.025	.311	1.00	1.00
	Strategy Implementation	.830	.087	.814	9.514	.000	1.00	1.00
Step 4	Constant	.018	.428		0.042	.067		
	Strategy Implementation	.729	.105	.715	6.950	.000	.666	1.502
	Corporate Governance	.195	.117	.172	1.667	.102	.666	1.502

Predictors: (Constant): corporate governance

b. Predictors: (Constant): corporate governance

c. Predictors: (Constant): strategy implementation

d. Predictors: (Constant): strategy implementation, corporate governance

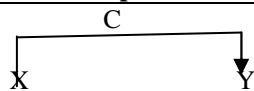
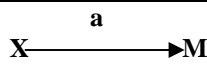
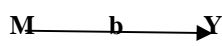
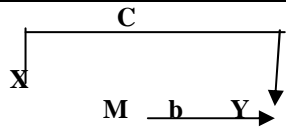
Dependent Variable: non-financial performance

The results in Table 3, step 1 show that with only one predictor variable, corporate governance had a significant contribution to non-financial performance ( $\beta=0.670$ ,  $t=4.953$ ,  $p<0.05$ ). Results in step 2 indicate that corporate governance had a significant contribution to strategy implementation ( $\beta=0.518$ ,  $t=4.803$ ,  $p<0.05$ ). The inclusion of strategy implementation in step 3 contributed significantly to non-financial performance ( $\beta=0.830$ ,  $t=9.515$ ,  $p<0.05$ ). Finally in step 4 when controlling for strategy implementation, corporate governance became statistically non significant ( $\beta=0.195$ ,  $t=1.667$ ,  $p>0.05$ ). Notably, when controlling for strategy implementation, the beta coefficient declines from  $\beta=0.670$  in step 1 to  $\beta=0.195$  in step 4 ( $\beta$  change=0.475). Thus, the reduced value of the regression coefficient for effect of corporate governance on non-financial performance in the presence of strategy implementation supported the hypothesis that the strategy implementation mediates the relationship between corporate governance and firm performance.

The results in Table 3 reveal that all the Betas ( $\beta$ ) for step 1, 2, 3 are statistically significant and met the criteria for a mediation effect proposed by Baron and Kenny. In step 4, the initial predictor variable (corporate governance) loses its significance when mediator (strategy implementation) was added into the model. Table 4 presents a summary of mediated effect of strategy implementation.



**Table 4: Summary of Mediation of Strategy Implementation in the Relationship between Corporate Governance and Non-Financial Performance**

Steps	Regression	Visual Depiction
Step 1 Non-financial Performance on Corporate Governances	Conducted a simple regression analysis with X predicting Y to test path c alone. $Y \text{ (Non-financial)} = 1.170 + 0.670 \text{ CG}$	
Step 2 Strategy implementation on corporate governance	Conducted a simple regression analysis with X predicting M to test path a. $M = 1.874 + 0.518 \text{ CG}$	
Step 3 Non-financial performance on strategy implementation	Conducted a simple regression analysis with M predicting Y as shown by path b alone $Y = 0.384 + 0.830 \text{ SI}$	
Step 4 Non-financial performance on strategy implementation and corporate governance	Conducted multiple regression analysis with X and M predicting Y. $*Y = 0.018 + 0.729 \text{ SI} + 0.195 \text{ CG}$	

**Template adapted from Byron & Kenny (1986)**

\*Y (Non-financial Performance, CG (Corporate Governance), M (Mediator), SI (Strategy Implementation)

The results in Table 4 provide a summary of the four steps in testing for mediation as provided. Step 1, 2, 3 were statistically significant and thus proceeded to step 4. In step 4, mediation was supported since corporate governance became statistically non significant in the presence of the mediator (strategy implementation).

## 6. Discussion

The study set out to determine whether the relationship between corporate governance and firm performance was direct or indirect through strategy implementation. The first step involved testing the relationship between corporate governance and non-financial measures of performance. The second step tested the relationship between corporate governance and strategy implementation. Assuming corporate governance as independent variable and strategy implementation as dependent variable a simple regression analysis was performed. There were no systematic studies known to the researcher that had been undertaken on the mediating effect of strategy implementation on relationship between corporate governance and performance. Researchers in this field have recognized the lack of empirical research linking the implementation process to performance (Andrews et al., 2011). This research therefore relied on studies that established some linkages between corporate governance and performance, corporate governance and strategy implementation and corporate governance and performance. Jooste & Fourie (2009) and Jalali (2012) emphasized the connection between corporate governance and strategy implementation.

The results were statistically significant reaffirming the position of other scholars (Jalali, 2012), Li et al (2008) and Njagi and Kombo (2014) that alluded to the significance of corporate governance in predicting strategy implementation. Although formulating a consistent strategy is a difficult task for any management team, making that strategy work – implementing it throughout the organization – is even more difficult (Hrebiniak, 2006). Brenes et al. (2008) maintain that successful strategy implementation is not merely a bundle of strategic initiatives and activities resulting from analysis and diagnoses which must be carried out by different individuals in the company. Rather, implementing strategy has to do with building competitive advantage by consciously and orderly managing a number of dimensions and components, both inside and outside the firm, which will end up by changing it.

According to Brenes et al. (2008) these dimensions are the process of formulating the strategy, its systematic execution, strategy control and follow-up, the CEO's leadership of suitable, motivated managers and employees, together with corporate governance leading the change. The results of this study not only support the argument of the importance attached to strategy implementation but the interplay of strategy formulation and implementation by recognizing the two phases which attempt to incorporate implementation issues in the formulation process namely; strategy operationalization and strategy institutionalization. By delineating the first order constructs of strategy formulation; vision, mission and the first order constructs of strategy formulation; goals, structure and human resources Isaac et. al., (2016) found that strategy implementation mediates the relationship between strategy formulation and performance.

## 7. Conclusion

The objective of the study was to determine whether the relationship between corporate governance and performance was direct or indirect through strategy implementation.

The results were statistically significant reaffirming the position of other scholars (Jalali, 2012), Li et al. (2008), Njagi and Kombo (2014) that alluded to the significance of corporate governance in predicting strategy implementation. The results of this study do not only support the argument of the importance attached to strategy implementation but the interplay of strategy formulation and implementation by recognizing the two phases which attempt to incorporate implementation issues in the formulation process namely; strategy operationalization and strategy institutionalization. By delineating the first order constructs of strategy formulation; vision, mission and goals and the first order constructs of strategy formulation; strategy, structure and human resources, Isaac et al. (2016) found that strategy implementation mediates the relationship between strategy formulation and performance.

For good performance to be realized managers must appreciate the fact that strategy formulation and implementation as two phases of the same process as oppose to two distinct processes. To succeed implementation issues must be incorporated in to the planning (formulation) process and supported by able leadership, resources and staff with the right skills who are equally rewarded and a culture that supports the strategy. This study adds to the debate of studies that confirm the factors that have a mediating effect on corporate governance and performance. The mediating relationships will help scholars understand the processes further which might be supportive in discovering further mediation at different levels of analysis.

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# Impact of Default Distance on Financial Warning of Listed Companies

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## Abstract:

Distance to Default is a measure of credit risk based on stock trading data. According to the result, the default distance can improve the goodness of fit and forecasting ability of the financial early-warning model, but the improvement effect is limited. And with the increasingly fierce market competition, the impact of financial risk on the survival and development of enterprises is also growing. Modern enterprises must fully understand the causes of financial risks, establish and improve risk control mechanisms, prevent and resolve various financial risks in the development of enterprises, To ensure that the development of enterprises toward a reasonable, scientific and healthy direction.

**Keywords:** default distance, financial crisis, financial warning

## 1. Introduction

Because of the impact of the international financial crisis is still fermenting. Most companies are caught up in difficult operating conditions due to the financial crisis, and the dilemma of doing business has led many corporate companies to go bankrupt. Examples are too numerous to mention. It is more and more important for the listed company managers and managers know how to identify the potential risks in advance and then analyze the risks to control the risks. Financial early warning analysis refers to analyzing the enterprise financial statements and related operating data, Use data management and financial data to inform the business operators and other stakeholders in advance about the dangerous situation the enterprise is facing, and analyze the possible causes of the financial crisis and the problems hidden in the financial operation system of the enterprise, in advance to make preventive measures.

In 1938, Secrist used only the balance-sheet ratio, to measure the difference between failing banks and normal banks. And the earliest financial warning research goes back to Beaver (1966), who has first use the statistical methods to establish a single variable financial early warning model and found the forecast accuracy can reach to 87%. And then Altman (1968) introduced multiple linearity determination models into financial early warning research. Finally, he got the prediction equation contains five discriminant variables, namely the famous Z-Score model, and the accuracy of the model up to 95%. But Martin (1977) thought that the Z-score model can only judge whether the sample company has a crisis of financial failure and can not measure the probability of its occurrence. The current assumptions are too much so it difficult to meet. To this end he set up early warning model of corporate financial crisis by Logistic regression analysis, and finally found that only 6 out of 25 financial ratios have strong predictive ability. Next, Ohlson (1980) used the probability model to analyze financial distress prediction problem, and his research has been up to the correct rate of 96. 12%. Based on the five variables of Z model in 1990, Odom & Sharda used neural network construction model to predict bankruptcy. The research shows that the training samples have a 100% accuracy rate, 81.75% of the enterprises that retain the sample failed, and 78.18% of the companies that retain the normal sample. It can be seen that the neural network has strong financial forecasting ability.

With the introduction of non-parametric methods such as artificial intelligence, foreign financial early warning research shows a multi-angle development trend.

As time went by, some scholars put default distance as a variable into the financial alert model, intended to improve the information content and effectiveness of the model. And default distance is one of the output results in KMV credit risk measurement model. Which refers to the standard deviation of the market value in the assets of the enterprise within a certain period of time from the book value of the liabilities. And this metric measures the extent to which companies can not repay their debt on time, directly related to the underlying meaning of the financial crisis.

Li Wubing and Xu Junbin (2003) added credit risk variables such as breach of contract to traditional financial ratio variables, and used Logit and ANN models to build a financial early warning model, and use it to examine the inclusion of credit risk variables one year and two years before the financial crisis. To examine the inclusion of credit risk variables whether can significantly improve the predictive power of the model or not. The results of this study show that credit risk variables reduce the overall sample prediction accuracy, but make the verification sample prediction accuracy to improve.

This article will based on the financial data and transaction data of Busan Special Steel, and builds a

financial early-warning model for listed companies with financial indicators and default distance, and explores the role and effect of breach distance in the financial early-warning model.

## 2. The theoretical basis of default distance

The theoretical basis of default distance is the option pricing theory, which is an evaluation technique to estimate the expected value of the underlying financial assets during the validity of the option under uncertain conditions. In 1973, Black and Scholes first pointed out that shareholder's equity is a call-value option based on the value of the company. Supposing that the stock price behavior pattern is a stochastic movement following the Wiener process and under a series of assumptions, next, they derived the option pricing model. (Altman, 1968)

In 1974, Robert C. Merton published an article titled "Pricing for Corporate Debt." He used the option pricing model to solve a firm's pricing problem.

## 3. Model and research methods

In view of the characteristics of the financial crisis forecasting and the frequency of related research, this paper selects the multivariable Logistic regression model as the target model.

$$\text{Logit } P = \ln \frac{P}{1-P} = U_0 + \sum_{i=1}^n U_i x_i + X$$

Logit P is the likelihood ratio, Logistic regression is the dependent variable. Describe whether a listed company is in a financial crisis as a two-value quality variable, a company with financial crisis as 1, and a company without financial crisis as 0.  $U_0$  is the intercept term,  $X_i$  is a specific predictor,  $U_i$  is the regression coefficient,  $X$  is the residual term.

In this paper, we study the role of default distance in the financial early-warning model. The specific research methods are as follows: Select the research samples from Chinese listed companies, construct the Logistic regression model with typical financial indicators as predictors, then introduce the default distance as a new variable (Yotzov, 2014) The Logistic regression model which combines the financial indicators with the default distance; and compares the goodness of fit and the forecast effect of the two models to find out the role of default distance indicators in the financial early-warning model.

## 4. Sample selection

As the default range of the forecast range of one year, it is necessary to select the financial year before the financial crisis as the forecast data. (Pan B & Ling F, 2012) For the model, there is a function similar to the sign function between the dependent variable and the profitability indicator:  $\text{Logit } P = 1$  when net profit  $< 0$ , and  $\text{Logit } P = 0$  when net profit  $> 0$ . The use of profitability indicators as predictors has no meaning, as it is itself a direct basis for dependent variables. (Kurz-Kim, 2012) This paper selects five types of financial indicators that do not include profitability indicators, trying to reflect the characteristics of the phenomenon of financial crisis. Each type of financial indicators contains three kinds of alternative indicators, select a high level of significance and other indicators of the same type of strong correlation of indicators, as a representative of the typical indicators into the model.

## 5. Research methods

### ● significance test

In order to find out the index that can distinguish the crisis company and the normal company, Inventory Turnover (X11), Accounts receivable turnover (X12), Total Asset Turnover (X13), Current Ratio (X21), Quick ratio (X22), Working capital proportion (X23), Short-term borrowings (X31), Asset-liability ratio (X32), Multiples of interest earned (X33), Other receivables (X41), Other payables (X42), Accounts receivable (X43), Sales Cash Ratio (X51), Cash inflow ratio of operating activities (X52), Cash Flow Debt Ratio (X53), Default distance (X6), 16 indicators were tested for the mean between groups. (Tian, 2008) First, the Kolmogorov-Smirnov method is used to explore the normality of each index. Then, the significance test method is selected based on the normality test results. The test results show that most of the indicators do not meet the normal distribution should be used non-parametric significance test. (Liu & Wang & Zhang, 2005)



**Indicator M-W U Significance test results**

Indicators	M-W U	p	Indicators	M-W U	p
X11	1352	0.026	X41	680	0.000
X12	1147	0.001	X42	1133	0.000
X13	850	0.000	X43	1762	0.842
X21	573	0.000	X51	1233	0.004
X22	760	0.000	X52	1685	0.546
X23	622	0.000	X53	1055	0.000
X31	755	0.000	X6	918	0.000
X32	587	0.000			
X33	462	0.000			

Non-parametric method tests showed that most of the indicators passed the test at a significant level of 0.001, indicating that these indicators have economic connotations that reflect different financial conditions. According to the significance level, X13 and X53 become the selected variable of the classification. It is worth noting that the difference in default distance between groups is very significant, indicating that it is feasible to introduce the model as a variable. (Tan, 2005)

#### ● Correlation test

According to the table the three indicators of liquidity ability, the three indicators of debt-servicing ability and the two indicators of earnings management are of the same significance level. (Tsai, 2013) It is necessary to further examine the relevance of the indicators within the category to determine the selected variables.

Based on the degree of correlation between the indicators within the class, X21, X32 and X41 have strong representative to be selected as model variables. At this point, the typical primary financial indicators selected include X13, X21, X32, X41 and X53, together with the default distance X6, constitute the model predictive variables.

### 6. Logistic regression model after the default distance was introduced to predict the result

The introduction of default distance in the model did not significantly affect the regression coefficients of financial indicators, and the regression coefficients of financial indicators and Wald test probabilities showed only slight changes. The default coefficient is -0.654 in the new regression equation, which is negatively correlated with the probability of crisis, indicating that the listed company with a small default distance is more likely to have a financial crisis, which agrees with the economic meaning of default distance itself. (Barisik, 2010)

The default distance is close to the asset-liability ratio (X21) but lower than the other four financial indicators. After the introduction of default distance, Logistic regression model to predict the correct rate was 85.8%. The introduction of default distance can improve both the goodness of fit and the forecasting effect of Logistic regression models. Because the default distance can provide information that financial indicators can not reflect, which helps to improve the information content and effectiveness of the financial early warning model. (Andreica, 2013) However, the default distance has a limited role in the Logistic regression model, Logistic regression model increase the default distance predictor variables, still can not has a substantial change in the goodness and prediction of the effect yet.

### 7. Conclusion

The default distance based on the stock transaction data can improve the explanatory power and forecasting ability of the financial early-warning model. However, this index has a weakening effect on the information content of the financial early-warning model and can not produce significant positive impact, in goodness of fit and the forecasting effect of the model.

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